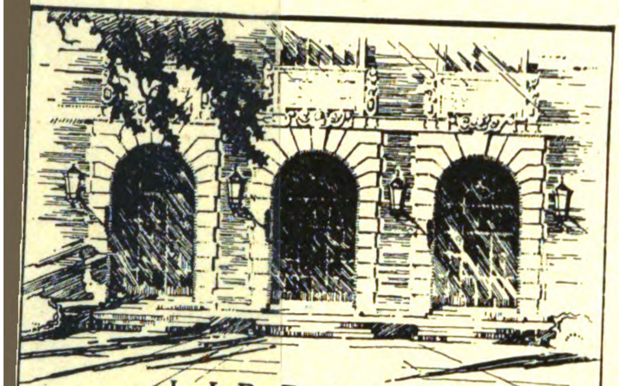

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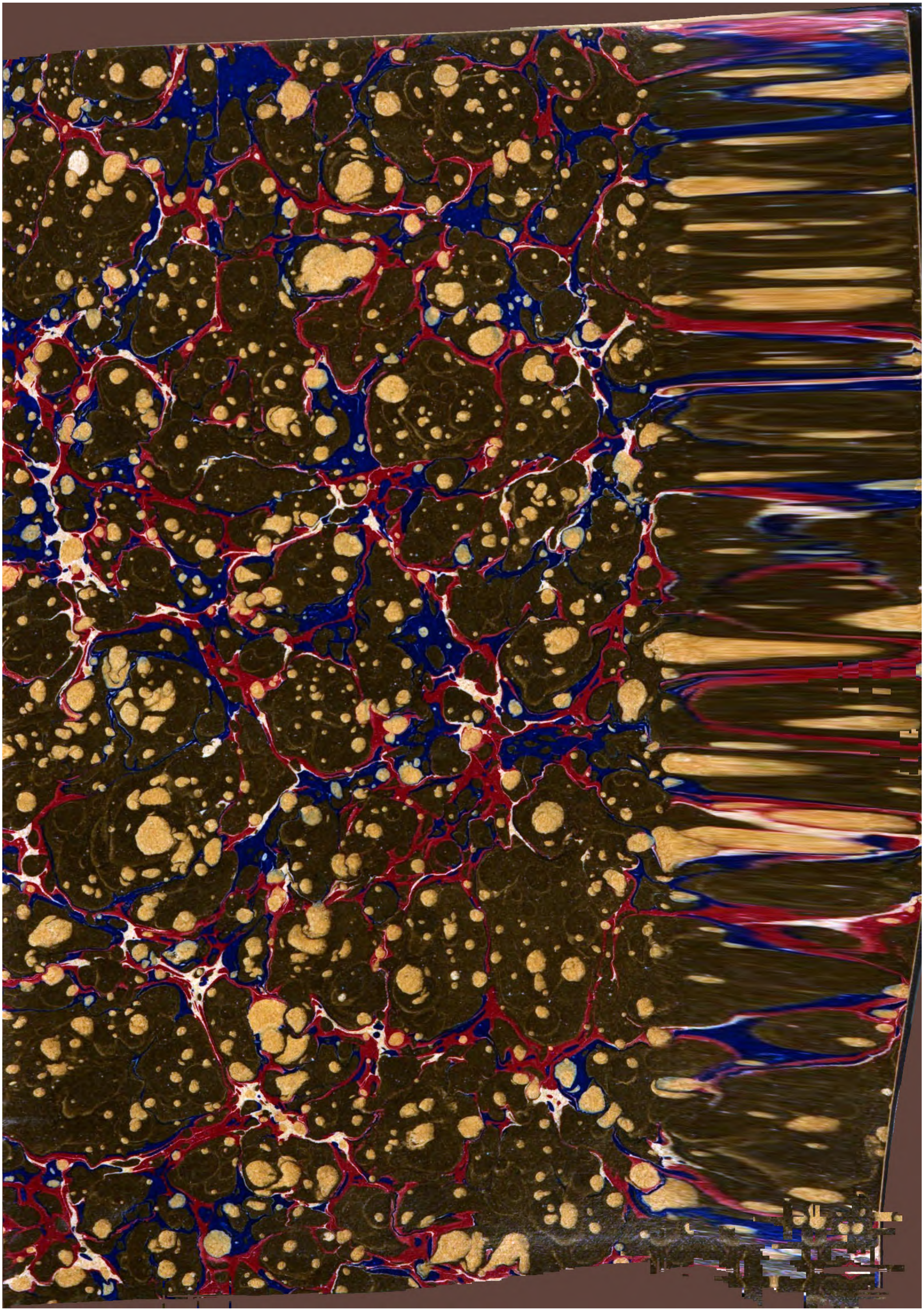

ALDEN'S

MANIFOLD CYCLOPEDIA

OF

KNOWLEDGE AND LANGUAGE.

WITH ILLUSTRATIONS.

VOL. 30.

PLURAL—PROPITIATE.

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SCHEME OF SOUND SYMBOLS

FOR THE PRONUNCIATION OF WORDS.

Note.—(-) is the mark dividing words respelt phonetically into syllables: (′), the accent indicating on which syllable or syllables the accent or stress of the voice is to be placed.

Sound-symbols employed in Respelling.	Representing the Sounds as exemplified in the Words.	Words respelt with Sound-symbols and Marks for Pronunciation.
ā	mate, fate, fail, aye	*māt, fāt, fāl, ā.*
ă	mat, fat	*măt, făt.*
â	far, calm, father	*fâr, kâm, fâ'thėr.*
ä	care, fair	*cär, fär.*
aw	fall, laud, law	*fawl, lawd, law.*
ē	mete, meat, feet, free	*mēt, mēt, fēt, frē.*
ĕ	met, bed	*mĕt, bĕd.*
ė	her, stir, heard, cur	*hėr, stėr, hėrd, kėr.*
ī	pine, ply, height	*pīn, plī, hīt.*
ĭ	pin, nymph, ability	*pĭn, nĭmf, ă-bĭl'ĭ-tĭ.*
ō	note, toll, soul	*nōt, tōl, sōl.*
ŏ	not, plot	*nŏt, plŏt.*
ô	move, smooth	*môv, smôth.*
õ	Goethe (similar to *e* in her)	*gö'tėh.*
ow	noun, bough, cow	*nown, bow, kow.*
oy	boy, boil	*boy, boyl.*
ū	pure, dew, few	*pūr, dū, fū.*
ŭ	bud, come, tough	*bŭd, kŭm, tŭf.*
û	full, push, good	*fûl, pûsh, gûd.*
ü	French plume, Scotch guid	*plüm, güd.*
ch	chair, match	*chär, măch.*
ċh	German buch, Heidelberg, Scotch loch (guttural)	*bôċh, hī'dĕl-bĕrċh, lŏċh.*
g	game, go, gun	*gām, gō, gŭn.*
j	judge, gem, gin	*jŭj, jĕm, jĭn.*
k	king, cat, cot, cut	*kĭng, kăt, kŏt, kŭt.*
s	sit, scene, cell, city, cypress	*sĭt, sēn, sĕl, sĭt'ĭ, sī'prĕs.*
sh	shun, ambition	*shŭn, ăm-bĭsh'ŭn.*
th	thing, breath	*thĭng, brĕth.*
th	though, breathe	*thō, brēth.*
z	zeal, maze, muse	*zēl, māz, mūz.*
zh	azure, vision	*ăzh'ėr, vĭzh'ŭn.*

ABBREVIATIONS USED IN THIS WORK.

a., *or* adj	adjective
A.B	Bachelor of Arts
abbr	abbreviation, abbreviated
abl. *or* abla.	ablative
Abp	Archbishop
abt	about
Acad	Academy
acc. *or* ac.	accusative
accom	accommodated, accommodation
act	active
A.D.	in the year of our Lord [*Anno Domini*]
Adjt	Adjutant
Adm	Admiral
adv. *or* ad.	adverb
A. F.	Anglo-French
Ag	Silver [*Argentum*]
agri	agriculture
A. L.	Anglo-Latin
Al	Aluminium
Ala	Alabama
Alb	Albanian
alg	algebra
A.M.	before noon [*ante meridiem*]
A.M	Master of Arts
Am	Amos
Amer	America, -n
anat	anatomy, anatomical
anc	ancient, anciently
AN. M.	in the year of the world [*Anno Mundi*]
anon	anonymous
antiq	antiquity, antiquities
aor	aorist, -ic
app	appendix
appar	apparently
Apr	April
Ar	Arabic
arch	architecture
archæol	archæology
arith	arithmetic
Ark	Arkansas
art	article
artil	artillery
AS.	Anglo-Saxon
As	Arsenic
Assoc	Association
asst	assistant
astrol	astrology
astron	astronomy
attrib	attributive
atty	attorney
at. wt	atomic weight
Au	Gold [*Aurum*]
A.U.C.	in the year of the building of the city (Rome) [*Anno urbis conditæ*]
Aug	August
aug	augmentative
Aust	Austrian
A. V.	authorized version [of Bible, 1611]
avoir	avoirdupois
B	Boron
B	Britannic
b	born
Ba	Barium
Bart	Baronet
Bav	Bavarian
bl.; bbl.	barrel; barrels
B.C	before Christ
B.C.L.	Bachelor of Civil Law
B.D.	Bachelor of Divinity
bef	before
Belg	Belgic
Beng	Bengali
Bi	Bismuth
biog	biography, biographical
biol	biology
B.L.	Bachelor of Laws
Bohem	Bohemian
bot	botany, botanical
Bp	Bishop
Br	Bromine
Braz	Brazilian
Bret	Breton
Brig	Brigadier
Brit	British, Britannica
bro	brother
Bulg	Bulgarian
bush	bushel, bushels
C	Carbon
c	century
Ca	Calcium
Cal	California
Camb	Cambridge
Can	Canada
Cant	Canterbury
cap	capital
Capt	Captain
Card	Cardinal
carp	carpentry
Cath	Catholic
caus	causative
cav	cavalry
Cd	Cadmium
Ce	Cerium
Celt	Celtic
cent	central
cf	compare [*confer*]
ch *or* chh.	church

ABBREVIATIONS.

Chal	Chaldee
chap	chapter
chem	chemistry, chemical
Chin	Chinese
Chron	Chronicles
chron	chronology
Cl	Chlorine
Class	Classical [= Greek and Latin]
Co	Cobalt
Co	Company
co	county
cog	cognate [with]
Col	Colonel
Col	Colossians
Coll	College
colloq	colloquial
Colo	Colorado
Com	Commodore
com	commerce, commercial
com	common
comp	compare
comp	composition, compound
compar	comparative
conch	conchology
cong	congress
Congl	Congregational
conj	conjunction
Conn *or* Ct.	Connecticut
contr	contraction, contracted
Cop	Coptic
Cor	Corinthians
Corn	Cornish
corr	corresponding
Cr	Chromium
crystal	crystallography
Cs	Cæsium
ct	cent
Ct. *or* Conn.	Connecticut
Cu	Copper [*Cuprum*]
cwt	a hundred weight
Cyc	Cyclopedia
D	Didymium
D. *or* Dut.	Dutch
d	died
d. [l. s. d.]	penny, pence
Dan	Daniel
Dan	Danish
dat	dative
dau	daughter
D. C.	District of Columbia
D.C.L.	Doctor of Civil [or Common] Law
D.D.	Doctor of Divinity
Dec	December
dec	declension
def	definite, definition
deg	degree, degrees
Del	Delaware
del	delegate, delegates
dem	democratic
dep	deputy
dep	deponent
dept	department
deriv	derivation, derivative
Deut	Deuteronomy
dial	dialect, dialectal
diam	diameter
Dic	Dictionary
diff	different, difference
dim	diminutive
dist	district
distrib	distributive
div	division
doz	dozen
Dr	Doctor
dr	dram, drams
dram	dramatic
Dut. *or* D.	Dutch
dwt	pennyweight
dynam *or* dyn	dynamics
E	Erbium
E. *or* e	East, -ern, -ward
E. *or* Eng.	English
Eccl	Ecclesiastes
eccl. *or* eccles	ecclesiastical [affairs]
ed	edited, edition, editor
e.g	for example [*ex gratia*]
E. Ind. *or* E. I.	East Indies, East Indian
elect	electricity
Emp	Emperor
Encyc	Encyclopedia
Eng. *or* E.	English
engin	engineering
entom	entomology
env. ext	envoy extraordinary
ep	epistle
Eph	Ephesians
Episc	Episcopal
eq. *or* =	equal, equals
equiv	equivalent
esp	especially
Est	Esther
estab	established
Esthon	Esthonian
etc	and others like [*et cetera*]
Eth	Ethiopic
ethnog	ethnography
ethnol	ethnology
et seq	and the following [*et sequentia*]
etym	etymology
Eur	European
Ex	Exodus
exclam	exclamation
Ezek	Ezekiel
Ezr	Ezra
F	Fluorine
F. *or* Fahr.	Fahrenheit
f. *or* fem	feminine
F. *or* Fr.	French
fa	father
Fahr. *or* F.	Fahrenheit
far	farriery
Fe	Iron [*Ferrum*]
Feb	February
fem *or* f.	feminine
fig	figure, figuratively
Fin	Finnish
F.—L.	French from Latin
Fla	Florida
Flem	Flemish
for	foreign
fort	fortification
Fr. *or* F.	French
fr	from

ABBREVIATIONS.

freq	frequentative
Fris	Frisian
ft	foot, feet
fut	future
G. *or* Ger	German
G	Glucinium
Ga	Gallium
Ga	Georgia
Gael	Gaelic
Gal	Galatians
gal	gallon
galv	galvanism, galvanic
gard	gardening
gen	gender
Gen	General
Gen	Genesis
gen	genitive
Geno	Genoese
geog	geography
geol	geology
geom	geometry
Ger	German, Germany
Goth	Gothic
Gov	Governor
govt	government
Gr	Grand, Great
Gr	Greek
gr	grain, grains
gram	grammar
Gr. Brit	Great Britain
Gris	Grisons
gun	gunnery
H	Hegira
H	Hydrogen
h	hour, hours
Hab	Habakkuk
Hag	Haggai
H. B. M.	His [or Her] Britannic Majesty
Heb	Hebrew, Hebrews
her	heraldry
herpet	herpetology
Hg	Mercury [*Hydrargyrum*]
hhd	hogshead, hogsheads
Hind	Hindustani, Hindu, or Hindi
hist	history, historical
Hon	Honorable
hort	horticulture
Hos	Hosea
Hung	Hungarian
Hydros	Hydrostatics
I	Iodine
I.; Is	Island ; Islands
Icel	Icelandic
ichth	ichthyology
Ida	Idaho
i.e.	that is [*id est*]
Ill	Illinois
illus	illustration
impera *or* impr	imperative
impers	impersonal
impf *or* imp	imperfect
impf. p. *or* imp	imperfect participle
improp	improperly
In	Indium
in	inch, inches
incept	inceptive
Ind	India, Indian
Ind	Indiana
ind	indicative
indef	indefinite
Indo-Eur	Indo-European
inf	infantry
inf *or* infin	infinitive
instr	instrument, -al
int	interest
intens	intensive
interj. *or* int	interjection
interrog	interrogative pronoun
intr. *or* intrans	intransitive
Io	Iowa
Ir	Iridium
Ir	Irish
Iran	Iranian
irr	irregular, -ly
Is	Isaiah
It	Italian
Jan	January
Jap	Japanese
Jas	James
Jer	Jeremiah
Jn	John
Josh	Joshua
Jr	Junior
Judg	Judges
K	Potassium [*Kalium*]
K	Kings [in Bible]
K	king
Kan	Kansas
Kt	Knight
Ky	Kentucky
L	Latin
L	Lithium
l. [l. s. d.], *or* £	pound, pounds [sterling]
La	Lanthanium
La	Louisiana
Lam	Lamentations
Lang	Languedoc
lang	language
Lap	Lapland
lat	latitude
lb.; llb. *or* lbs	pound ; pounds [weight]
Let	Lettish
Lev	Leviticus
LG	Low German
L.H.D	Doctor of Polite Literature
Lieut	Lieutenant
Lim	Limousin
Lin	Linnæus, Linnæan
lit	literal,-ly
lit	literature
Lith	Lithuanian
lithog	lithograph, -y
LL	Late Latin, Low Latin
LL.D	Doctor of Laws
long	longitude
Luth	Lutheran
M	Middle
M	Monsieur
m	mile, miles
m. *or* masc.	masculine
M.A	Master of Arts
Macc	Maccabees
mach	machinery
Mag	Magazine

ABBREVIATIONS.

Maj	Major
Mal	Malachi
Mal	Malay, Malayan
manuf	manufacturing, manufacturers
Mar	March
masc *or* m.	masculine
Mass	Massachusetts
math	mathematics, mathematical
Matt	Matthew
M.D.	Doctor of Medicine
MD	Middle Dutch
Md	Maryland
ME	Middle English, or Old English
Me	Maine
mech	mechanics, mechanical
med	medicine, medical
mem	member
mensur	mensuration
Messrs. *or* MM	Gentlemen, Sirs
metal	metallurgy
metaph	metaphysics, metaphysical
meteor	meteorology
Meth	Methodist
Mex	Mexican
Mg	Magnesium
M.Gr	Middle Greek
MHG	Middle High German
Mic	Micah
Mich	Michigan
mid	middle [voice]
Milan	Milanese
mid. L. *or* ML.	Middle Latin, Mediæval Latin
milit. *or* mil	military [affairs]
min	minute, minutes
mineral	mineralogy
Minn	Minnesota
Min. Plen	Minister Plenipotentiary
Miss	Mississippi
ML. *or* mid. L.	Middle Latin, Mediæval Latin
MLG	Middle Low German.
Mlle	Mademoiselle
Mme	Madam
Mn	Manganese
Mo	Missouri
Mo	Molybdenum
mod	modern
Mont	Montana
Mr	Master [Mister]
Mrs	Mistress [Missis]
MS.; MSS.	manuscript; manuscripts
Mt	Mount, mountain
mus	music
MUS. DOC.	Doctor of Music
myth	mythology, mythological
N.	Nitrogen
N. *or* n.	North, -ern, -ward
n	noun
n *or* neut.	neuter
Na	Sodium [*Natrium*]
Nah	Nahum
N. A., *or* N. Amer.	North America, -n
nat	natural
naut	nautical
nav	navigation, naval affairs
Nb	Niobium
N. C. *or* N. Car.	North Carolina
N. D	North Dakota
Neb	Nebraska
neg	negative
Neh	Nehemiah
N. Eng	New England
neut *or* n.	neuter
Nev	Nevada
N.Gr.	New Greek, Modern Greek
N. H	New Hampshire
NHG	New High German [German]
Ni	Nickel
N. J	New Jersey
NL	New Latin, Modern Latin
N. Mex	New Mexico
N. T.. *or* N. Test.	New Testament
N. Y	New York [State]
nom	nominative
Norm. F.	Norman French
North. E.	Northern English
Norw	Norwegian, Norse
Nov	November
Num	Numbers
numis	numismatics
O	Ohio
O	Old
O	Oxygen
Obad	Obadiah
obj	objective
obs. *or* †	obsolete
obsoles	obsolescent
O.Bulg	Old Bulgarian or Old Slavic
Oct	October
Odontog	odontography
OE	Old English
OF *or* O. Fr.	Old French
OHG	Old High German
Ont	Ontario
opt	optics, optical
Or	Oregon
ord	order
ord	ordnance
org	organic
orig	original, -ly
ornith	ornithology
Os	Osmium
OS.	Old Saxon
O. T., *or* O. Test.	Old Testament
Oxf	Oxford
oz	ounce, ounces
P	Phosphorus
p.; pp	page; pages
p., *or* part.	participle
Pa. *or* Penn.	Pennsylvania
paint	painting
palæon	palæontology
parl	parliament
pass	passive

pathol *or* **path**	pathology
Pb	Lead [*Plumbum*]
Pd	Palladium
Penn *or* **Pa.**	Pennsylvania
perf	perfect
perh	perhaps
Pers	Persian, Persic
pers	person
persp	perspective
pert	pertaining [to]
Pet	Peter
Pg. *or* **Port.**	Portuguese
phar	pharmacy
PH.D	Doctor of Philosophy
Phen	Phenician
Phil	Philippians
Philem	Philemon
philol	philology, philological
philos. *or* **phil**	philosophy, philosophical
phonog	phonography
photog	photography
phren	phrenology
phys	physics, physical
physiol	physiology, physiological
Pied	Piedmontese
Pl	Plate
pl. *or* **plu**	plural
Pl. D	Platt Deutsch
plupf	pluperfect
P.M	afternoon [*post meridiem*]
pneum	pneumatics
P. O	Post-office
poet	poetical
Pol	Polish
pol. econ	political economy
polit	politics, political
pop	population
Port. *or* **Pg.**	Portuguese
poss	possessive
pp	pages
pp	past participle, perfect participle
p. pr	present participle
Pr. *or* **Prov.**	Provençal
pref	prefix
prep	preposition
Pres	President
pres	present
Presb	Presbyterian
pret	preterit
prim	primitive
priv	privative
prob	probably, probable
Prof	Professor
pron	pronoun
pron	pronunciation, pronounced
prop	properly
pros	prosody
Prot	Protestant
Prov. *or* **Pr.**	Provençal
Prov	Proverbs
prov	province, provincial
Prov. Eng.	Provincial English
Prus	Prussia, -n
Ps	Psalm, Psalms
psychol	psychology
pt	past tense
pt	pint
Pt	Platinum
pub	published, publisher, publication
pwt	pennyweight
Q	Quebec
qt	quart
qtr	quarter [weight]
qu	query
q.v.	which see [*quod vide*]
R	Rhodium
R	River
Rb	Rubidium
R. Cath	Roman Catholic
rec. sec	recording secretary
Ref	Reformed
refl	reflex
reg	regular, -ly
regt	regiment
rel. pro. *or* **rel**	relative pronoun
repr	representing
repub	republican
Rev	Revelation
Rev	The Reverend
Rev. V	Revised Version
rhet	rhetoric, -al
R. I	Rhode Island
R. N	Royal Navy
Rom	Roman, Romans
Rom	Romanic or Romance
Rom. Cath. Ch. *or* **R. C. Ch**	Roman Catholic Church
r.r	railroad
Rt. Rev	Right Reverend
Ru	Ruthenium
Russ	Russian
r.w	railway
S	Saxon
S	Sulphur
s	second, seconds
s. [l. s. d.]	shilling, shillings
S. *or* **s**	South, -ern, -ward
S. A. *or* **S. Amer.**	South America, -n
Sam	Samaritan
Sam	Samuel
Sans, *or* **Skr**	Sanskrit
Sb	Antimony [*Stibium*]
s.c	understand, supply, namely [*scilicet*]
S. C. *or* **S. Car.**	South Carolina
Scand	Scandinavian
Scot	Scotland. Scotch
scr	scruple, scruples
Scrip	Scripture [s], Scriptural
sculp	sculpture
S. D	South Dakota
Se	Selenium
sec	secretary
sec	section
Sem	Semitic
Sep	September
Serv	Servian
Shaks	Shakespeare
Si	Silicon

ABBREVIATIONS.

Sic	Sicilian
sing	singular
sis	sister
Skr. *or* Sans	Sanskirt
Slav	Slavonic, Slavic
Sn	Tin [*Stannum*]
Soc	Society
Song Sol	Song of Solomon
Sp	Spanish
sp. gr	specific gravity
sq	square
Sr	Senior
Sr	Strontium
	Saint
	street
stat	statute
S.T.D	Doctor of Sacred Theology
subj	subjunctive
suf	suffix
Su. Goth	Suo-Gothic
superl	superlative
Supp	Supplement
Supt	Superintendent
surg	surgery, surgical
Surv	surveying
Sw	Swedish
Swab	Swabian
sym	symbol
syn	synonym, -y
Syr	Syriac, Syrian
t	town
Ta	Tantalum
Tart	Tartar
Te	Tellurium
technol	technology
teleg	telegraphy
Tenn	Tennessee
term	termination
terr	territory
Teut	Teutonic
Tex	Texas
Th	Thorium
theat	theatrical
theol	theology, theological
therap	therapeutics
Thess	Thessalonians
Ti	Titanium
Tim	Timothy
Tit	Titus
Tl	Thallium
toxicol	toxicology
tp	township
tr. *or* trans	transitive
transl	translation, translated
trigon	trigonometry
Turk	Turkish
typog	typography, typographical
U	Uranium
ult	ultimate, -ly
Unit	Unitarian
Univ	Universalist
Univ	University
U. Presb	United Presbyterian
U. S.	United States
U. S. A.	United States Army
U. S. N.	United States Navy
Ut	Utah
V	Vanadium
v	verb
Va	Virginia
var	variant [word]
var	variety of [species]
Ven	Venerable
Venet	Venetian
vet	veterinary
v. i. *or* v. intr	verb intransitive
vil	village
viz	namely, to-wit [*videlicet*]
v. n	verb neuter
voc	vocative
vol	volume
vols	volunteers
Vt	Vermont
v. tr	verb transitive
W	Tungsten [*Wolfram*]
W	Welsh
W. *or* w	West, -ern, -ward
Wal	Walachian
Wall	Walloon
Wash	Washington
Westph	Westphalia, -n
W. Ind. *or* W. I.	West Indies, West Indian
Wis	Wisconsin
wt	weight
W. Va	West Virginia
Wyo	Wyoming
Y	Yttrium
yd	yard
yr	year
Zech	Zechariah
Zeph	Zephaniah
Zn	Zinc
zool	zoology, zoological
Zr	Zirconium

See also ABBREVIATIONS in Vol. I.

ALDEN'S

MANIFOLD CYCLOPEDIA

PLURAL, a. n. *plô'răl* [L. *plurālĭs*, plural—from *plus*, more: It. *plurale;* F. *pluriel;* OF. *plurel*, plural]: consisting of more than one; expressing two or more. **PLU'RALLY**, ad. *-lĭ*. **PLURALITY**, n. *plô-răl'ĭ-tĭ*, state of being or having a greater number; a number consisting of more than one of the same kind; a majority over others, as of votes; more than one benefice held by the same clergyman. **PLURALIST**, n. *plô'răl-ĭst*, a clergyman who holds more than one benefice. **PLU'RALIZE**. v. *-īz*. **PLU'RALIZING**, imp. **PLU'RALIZED**, pp. *-īzd*. **PLU'RALISM**, n. *-ĭzm*, in *canon law*, possession by the same person of two or more ecclesiastical offices, whether of dignity or of emolument. P. has been held unlawful from the earliest times, from the impossibility, in ordinary cases, of the same individual adequately discharging the duties of more than one office. In cases in which this impossibility does not really exist, the benefices or dignities are considered 'compatible,' and may be held by the same person, with the due dispensation, in the Church of Rome by the pope. in the Anglican Church by the crown, or in recent times by the abp. or the privy council.

PLURI, *plô'rĭ* [L. *plus*, more, *plūris*, of more]: the first element of a compound, signifying 'several.'

PLURIES, n. *plô'rĭ-ēz:* in *law*, a writ which issues in the third instance, after the first and the alias have been ineffectual; so called from the wood *pluries* (often), which occurs in the first clause.

PLURILITERAL, a. *plô'rĭ-lĭt'ėr-ăl* [L. *plus*, more, *plūris*, of more; *litĕra*, a letter]: containing more than three letters.

PLURILOCULAR, a. *plô'rĭ-lŏk'ū-lėr* [L. *plus*, or *plūrem*, more; *loculus*, a little place—from *locus*, a place]: in *bot.*, having several divisions containing seeds, as the lemon and the orange.

PLURIPARTITE, a. *plô'rĭ-pâr'tīt* [L. *plus*, or *plūrem*, more; *partītus*, parted or divided—from *pars*, a part]: in *bot.*, applied to an organ which is deeply divided into several nearly distinct portions.

PLUS, ad. *plŭs* [L. *plus*, more]: more: N. in *alg.*, or *arith.*, the sign (+) set between numbers or quantities, signifying that they are to be added together.

PLUSH, n. *plŭsh* [F. *peluche*—from It. *peluccio*, plush; *peluzzo*, fine hair—from L. *pilus*, hair: Piedm. *plucia;* Ger. *plüsch;* Dut. *pluis*, a lock or tuft of hair, plush]: woven cloth, having a long shaggy pile on the upper surface. Although woven like velvet, it differs from it in the greater length of the pile, and in its not being clipped or shorn to a uniform length. Formerly, it was made of a double warp, one thread being usually double worsted yarn, the other, intended to form the pile, of goat's hair, and the weft of worsted; occasionally, only worsted was used. Now, it is made extensively of silk and cotton, the silk taking the place of the goat's hair to form the pile. This silk plush is the material now almost universal for gentlemen's hats, instead of beaver-hair as formerly: it is worked also in colored silks, for many articles of ladies' attire: see WEAVING.

PLUTARCH, *plŭ'târk* (*Ploutarchos*): biographer and moralist: born at Chæroneia in Bœotia. He was contemporary of the Plinys and Tacitus, but we can only approximate to the year of his birth. He tells us that he was a student of philosophy at Delphi, under Ammonius, when Nero was making his progress through Greece A.D. 66; and we may infer that in that year he was beyond the age of puberty. He lived some years in Rome, and in other towns of Italy, where he seems to have been much occupied with public business, and with giving lessons in philosophy—to which he attributes his having failed to learn the Latin language in Italy, and his having to postpone his studies in Roman literature till late in life. During the reign of Domitian, he was delivering lectures on philosophy at Rome; but we have not sufficient evidence for the statement that he was preceptor to Trajan, or that that emperor raised him to consular rank. The later years of his life he spent at Chæroneia, where he discharged the duties of archon and priest of Apollo. He lived till 106, eighth year of the reign of Trajan; but how much longer is not known, though there is some probability that he outlived Trajan, who d. 117. He was married to an amiable wife, Timoxena, by whom he had several sons, who reached manhood, and left descendants.

The work by which P. is best known is his *Parallel Lives* of 46 Greeks and Romans. These are arranged in pairs, each pair forming one book (*biblion*), consisting of the life of a Greek and a Roman, and followed by a comparison between the two men: in a few cases, the comparison is omitted or lost. The heroes of these biographies are the following: 1. Theseus and Romulus; 2. Lycurgus and Numa; 3. Solon and Valerius Publicola; 4. Themistocles and Camillus; 5. Pericles and Q. Fabius Maximus; 6. Alcibiades and Coriolanus; 7. Timoleon and Æmilius Paulus; 8. Pelopidas and Marcellus; 9. Aristides and Cato the Elder; 10, Philopœmen and Flamininus; 11. Pyrrhus and Marius; 12. Lysander and Sulla; 13. Cimon and Lucullus; 14. Nicias and Crassus; 15. Eumenes and Sertorius; 16. Agesilaus and Pompeius; 17. Alexander and Cæsar; 18. Phocion and Cato the Younger; 19. Agis and Cleomenes, and Tiberius and Caius Gracchus; 20. Demosthenes and Cicero; 21. Demetrius Poliorcetes and M. Antonius; 22. Dion and M. Junius Brutus. In addition, are placed in the editions after the 46th *Parallel Lives*, the biographies of Artaxerxes Mnemon, Aratus, Galba, and Otho. P. has no equal in ancient, and few in modern times, as a writer of 'Lives.' His power lies in his felicitous grasp of the character as a whole, and his skill in keeping minor details in subordination. It is not till the reader has seen the portrait in its completeness that his attention is attracted to accessory points. 'There are biographers (says an admirable writer in the *Quarterly Review*) who deal with the hero, and biographers who deal with the man. But Plutarch is the representative of ideal biography, for he delineates both in one.' Yet with all their artistic harmony, his lives abound with anecdotes and *bon-mots* in such profusion, that they form one of our chief authorities for the table-talk of the Greeks and Romans. Their popularity in ancient, mediæval, and modern times, with readers of every rank and age, is extraordinary; and they have exerted a very powerful and salutary influence on the art of biography. The other writings of P., more than 60 in number, are included under the general title *Moralia*, or Ethical Works. Several ofthese are not purely ethical in their tenor; while many of them are probably not by him, or if they are, do him small credit. Even in the best of the *Moralia* there is no philosophical system; their merits are not speculative, but practical; and their value consists mainly in their good sense, in the justness of their views on the ordinary affairs of human life; and in the benevolence of tone diffused throughout them. The best text of the Lives is that of Immanuel Bekker; the best translation in English is that of Dryden and others, as re-edited by Clough. The best ed. of the *Moralia* is by Wyttenbach (Oxford 1795–1800); and of the entire works, the editions of Reiske (Leip. 1774–82) and Hutten (Tüb. 1791–1805).

PLUTEUS, n. *plô'tĕ-ŭs* [L. *plutĕŭs*, a breastwork or parapet on towers, etc.—perhaps from *pluit*, it rains—*lit.*, something that protects against rain]: in *anc. arch.*, wall sometimes built to close the intervals between the columns of a building; also the space between two orders placed one over the other as in the amphitheatres, etc. In *milit.*, P. was a movable gallery shaped like an arched wagon, used by besiegers for protection of their archers. In *zool.*, the larval form of the Echinoidea.

PLUTO, n. *plô'tō* [L. *Pluto:* Gr. *Ploutōn*]: in the *anc. myth.* of the Greeks and Latins, the god of the lower world, husband of Proserpine, and brother of Jupiter and Neptune. PLUTONIAN, a. *plô-tō'nĭ-ăn*, of or relating to Pluto, or to the regions of fire; dark. PLU'TONIST, n. *-tŏn-ĭst*, one who refers the formation of rocks and the earth's crust to the action of fire. PLU'TONISM, n. *-ĭzm*, the doctrine or theory which refers the rock-formation of the earth's crust to the action of fire, rather than water; opposite of *Neptunism*. PLUTONIC, a. *plô-tŏn'ĭk*, in *geol.*, applied to igneous rocks found at some depth in the earth, as distinct from *volcanic*, which are consolidated on the surface—the plutonic being more crystalline and exhibiting more structure than the volcanic, as in granites. *Plutonic rocks* was the name given by Lyell to the Granitic Rocks, on the supposition that they were formed at considerable depth in the earth, and were cooled and crystallized slowly under great pressure. They were so designated in distinction from the Volcanic Rocks, which, though they have risen up from below, cooled from a melted state more rapidly upon or near the surface, as it was supposed. It is now proven, however, that the granites, while sometimes forced up into fissures in a plastic state, are in general sedimentary rocks that have been metamorphosed *in loco* by two conditions, moisture and some degree of heat, not necessarily great if slowly acting through a long period. See GRANITE.

PLU'TO [Gr. *Ploutōn*, from *plouteō*, I am rich]: originally only a surname of HADES, as the giver or possessor of riches: in the mythology of Greece, the third son of Kronos and Rhea, and brother of Zeus and Poseidon. On the tripartite division of the universe, he obtained the sovereignty of the under-world—the realm of darkness and ghostly shades, where he sits enthroned as a 'subterranean Zeus'—to use the expression of Homer, and rules the spirits of the dead. His dwelling-place, however, is not far from the surface of the earth. P. is inexorable in disposition, not to be moved by either prayers or flatteries. He is borne on a car, drawn by four black steeds, which he guides with golden reins. His helmet makes him invisible, whence, according to some scholars, his name of *Hades* [from *a*, priv., and *idein*, to see]; though others, with at least equal probability, derive Hades from *hadō*, or *chadō*, I receive or embrace, and translate the word the 'all-receiver.' In Homer, Hades never means a place, but always a person. Moreover, it is to be noticed that the poet does not divide the realm of the shades into two separate regions. All the souls of the dead—good and bad alike—mingle together. Subsequently, however, when the ethical conception of future retribution became more widely developed, the kingdom of the dead was divided into Elysium (q.v.), the abode of the good, and Tartarus (q.v.), the place of the wicked. This change also exercised an important influence on the conception of Pluto. The ruler of the under-world not only acquired additional power and majesty, but the very idea of his character was essentially modified. He came to be regarded as a beneficent deity, who held the keys of the earth in his hand, and possessed its metallic treasures (whence his new name *Pluto*, or *Plutus*), and who blessed the year with fruits; for out of the darkness underground come all the riches and swelling fulness of the soil. Hence, in later times, mortals prayed to him before proceeding to dig for the wealth hidden in the bowels of the earth.

P. married Persephone (Proserpina), daughter of Demeter (Ceres), after carrying her off from the plains of Enna. He assisted his brothers—according to the mythological story—in their war against the Titans, and received from the Cyclops, as a reward for delivering them from Tartarus, the helmet that makes him invisible, which he lent to Hermes (Mercury) in the aforesaid war, to Perseus in his combat with the Gorgons, and which ultimately came to Meriones. The Erinnyes and Charon obey his behests. He sits in judgment on every open and secret act, and is assisted by three subordinate judges, Æacus, Minos, and Rhadamanthus. The worship of P. was widely spread among both the Greeks and the Romans. Temples were erected to his honor at Athens, Elis, and Olympia. Among trees and flowers, the cypress, boxwood, narcissus, and maidenhair were sacred to him; bulls and goats were sacrificed to him amid the shadows of night, and his priests had their brows garlanded with cypress-wreaths. In works of art, he resembles his brothers Zeus and Poseidon; only his hair hangs down somewhat wildly and fiercely over his brow, and his appearance, though majestic, as becomes so mighty a god, has something gloomy and terrible. There can be little doubt that he, as well as Pan (q.v.), helped to trick out the conception of the devil prevalent during the middle ages, and not yet extinct. If it was from Pan that the devil derived those physical characteristics alluded to in the famous *Address to the Deil* by the poet Burns:

> ‘O thou, whatever title suit thee,
> Auld *Hornie*, Satan, Nick, or *Clootie*,’

it may be also that to P. he owes his position as ‘king of Hell,’ ‘his Blackness,’ and many of the insignia of his infernal royalty.

PLUTOCRACY, n. *plô-tŏk'ra-sĭ* [Gr. *ploutos*, riches; *kratia*, rule]: govt. by the rich; a class powerful in the state because of its wealth. PLUTOCRAT, n. *plô'tō-krăt*, one having power in the state because of his wealth. PLU'TOCRAT'IC, a. having the character of a plutocrat, or a plutocracy.

PLUTUS, n. *plô'tŭs* [L. *Plutus;* Gr. *Ploutos*, the god of riches]: in *anc. myth.*, the god of wealth; thence figuratively riches; wealth. P was fabled to be son of Ceres and Iasius: he was represented as blind, and as bestowing his gift on the good and the bad indiscriminately. The caves of Spain, famous for their deposits of precious metals, were assigned as his abode.

PLUVIAL, a. *plô'vĭ-ăl*, or PLU'VIOUS, a. *-ŭs* [F. *pluvial;* L. *pluvĭālis*, of or belonging to rain; *pluvius*, rainy—from *pluvĭă*, rain: It. *pluviale*, *piovoso*]: of or belonging to rain; rainy; in *geol.*, applied to operations and results that arise from or depend on the action of rain.

PLUVIAMETER, n. *plô'vĭ-ăm'ĕ-tėr* [L. *pluvĭa*, rain; Gr. *metron*, a measure]: an instrument for receiving and measuring the amount of rain that falls in any locality; a rain-gauge. PLU'VIAMET'RICAL, a. *-ă-mĕt'rĭ-kăl*, pertaining to a rain-gauge. PLU'VIAMET'RICALLY, ad. *-lĭ*. PLU'VIAM'ETRY, n. *-ăm'ĕ-trĭ*, the art of measuring the rainfall. The preceding are also spelt with *o* before *m*, as *pluviometer*.

PLUVIOMETER, PLUVIOMETRICAL, etc.: see PLUVIAMETER.

PLUVIOSE, n. *plô'vĭ-ōs* [F. rainy—from L. *pluviosus*—from *pluvia*, rain]: second winter month in the French republican year: see CALENDAR.

PLY, v. *plī* [F. *plier*, to fold or bend: Ger. *flechten*, to twist: Sp. *plegar*, to plait: L. *plicārĕ*, to fold: Gr. *plekō*, I twist]: to give one's mind to; to lay on with force; to apply closely and steadily to; to work at; to work; to offer service; to solicit earnestly; to practice or perform with diligence; to run regularly between two ports, as a vessel—also said of cabs running for hire: N. a fold; a plait. PLY'ING, imp.: N. urgent solicitation; effort or endeavor to make way against the wind. PLIED, pp. *plīd*. PLIER, n. *plī'ėr*, one who plies. PLY'ERS, n. plu. *-ėrz*, in *mech.*, a kind of balance used in raising or letting down a drawbridge—another spelling of PLIERS. TO PLY A TRADE, to exercise or follow a trade. TO PLY ONE'S HEELS, to exercise one's heels in running away. TO PLY ONE WITH FLATTERY, to keep flattering him.

PLYMOUTH, *plĭm'ụth:* town, cap. of P. co., s.e. Mass., port of fishery and commerce on a broad but shallow harbor, w. of Cape Cod Bay, with shelter formed by the P. and Duxbury beaches; 37 m. s.e. of Boston, 28 m. n.e. of New Bedford, 48 m. n. e. of Newport, R. I., 30 m. n.e, of Fall River, Mass. It was till 1691, Sep., the seat of a colonial State of P., larger than Rhode Island, founded 1620, Dec. 21, by the famous Pilgrim Fathers (q.v.). The town has a front of about 5 m. from n. to s. on the harbor. The ground built over is mostly elevated, presenting many choice residential sites, which have been improved to make a place of notable attraction for summer visitors. The area of P. extends back about 5 m., and n. to s. about 18 m., with a width s. of the harbor of 8 or 9 m. Chiltonville and S. P. are small centres of population and business s.w. of the harbor; and at Manomet and vicinity are hotels and residences for summer resort. Throughout the larger part of P., great numbers of ponds with very fine water and excellent fishing are found. The industries of P. are varied and substantial, including very large cordage works, woolen and cotton mills, iron works, foundry, large manufactories of rivets, tacks, wire nails and brads, patent joints for bedsteads, zinc and iron plate, cotton duck, etc., and shoe factories. The former large cod fisheries of P. have declined, but mackerel fishing is still carried on. Cranberry culture is extensive. In the woods is plentiful growth of the beautiful Mayflower. One of the lines of the Old Colony r. r. extends 37 m. from Boston to P., with one route direct, and a second following the coast by Hingham, Cohasset, Marshfield, and Duxbury. New r. r. lines are under way, one s. to the cape, and one w. to Middleboro, giving direct connection with New York. In summer steamers ply daily between Boston and P. A massive granite monument, designed 1853 (corner-stone laid 1859, pedestal 45 ft. high, completed 1877, with four figures of heroic size on the buttresses of the pedestal, Law, Freedon Education, and Morality, and a colossal statue of Faith, 36 feet high), was dedicated, 1890, Aug. 1, with poem by a Rom. Cath. journalist, John Boyle O'Reilly, and oration by W. C. P. Breckenridge of Ky. Its site is considerably n. of any historical spot, with a view to better display. Pilgrim Hall, built 1824, and thoroughly renovated recently, is an interesting museum of Pilgrim relics, portraits, memorial paintings, and other art, visited (1890) by 16,000 persons who paid fee, and 8,000 grand army excursionists admitted free. The court-house preserves the original colony records. The famous Rock, a bowlder of syenitic granite, from which the water-edge of the harbor has receded considerably, has been inclosed (1867) under a canopy of granite, and the face of Coles hill adjoining it, where the forty martyrs of the first winter were buried, is kept as a memorial spot under charge of the Pilgrim Hall Soc. The burial hill, a little distance back from the shore, marked originally the rear of the settlement, where the square log meeting-house, which, with a flat ordnance platform for a roof, served also as a fort. The schools, high schools, and private schools of P. are of the best type; there is an excellent weekly paper; the churches of various denominations are well supported; and the people are notable for thrift, character, and culture. The post-office had receipts (1890) more than $11,000; custom-house more than $100,000. There are water supply, electric lighting, and an electric street railway. Pop. (1880) 7,094; (1890) 7,314.

PLYM'OUTH: town in Plymouth township, Luzerne co., Penn., in the Wyoming valley, on the e. bank of the Susquehanna river, and on the Lackawanna and Bloomsburg railroad. It is 20 m. s.w. of Scranton, and 4 m. below Wilkesbarre. It has a high school and an academy, several newspaper offices, churches, national and savings banks. The inhabitants are principally Irish, Welsh, and Germans, employed in the extensive coal-mines near. In 1885 P. was visited by a scourge of typhoid fever, which in most cases proved fatal: it was occasioned by pollution of the drinking-water. Pop. (1870) 2,684; (1880) 6,085.

PLYM'OUTH: English seaport and market-town, and parliamentary and municipal borough in s.w. Devonshire, 246 m. w.s.w. of London. It stands in the bight of Plymouth Sound (q.v.), between the estuaries of the Plym and Tamar. W. of it is Stonehouse (q.v.), a township and coast-guard station; still further w. is Devonport (q.v.), the great naval and military station. The two former places, however, having become united by continuous lines of houses, have lost their individuality, and are (with Devonport, which is walled, fortified, and surrounded by a moat) now generally considered as one great town. Of this great centre of fashion, trade, and naval and military preparation, P. proper, which covers an area of one sq. m., may be called 'the city,' and Devonport the 'west-end;' while Stonehouse is an intermediate district, containing chiefly factories, barracks, victualling yards, hospitals, and other institutions. P. proper extends from Mill Bay on the w. to the mouth of the Plym on the east. Its site is somewhat rugged and uneven; an eminence forming the suburbs runs along its n. side, and another eminence, partly occupied by the citadel, fronts the Sound. The chief buildings are the Royal Hotel, comprising an immense inn, assembly-rooms, a theatre, and the Athenæum; public library, containing in its Cottonian collection 300 sketches by the old Italian masters; Guildhall; St. Andrew's Church, whose tower dates from 1490 (restored in 1874–5); and Charles Church (1646–58), dedicated to 'St. Charles the Martyr.' There are also important educational establishments, some of which are endowed, and many charitable institutions. Mill Bay and Sutton Pool are two small inlets of the sound, in which lie all the merchant-vessels bound for P. proper. Between these inlets, and along the shore, is the eminence or high plateau, called the Hoe. From this ridge, whence first the approach of the Spanish Armada is said to have been descried, magnificent shore and sea views are obtained. Its e. end is occupied by the citadel, a fortress mounting 150 guns, which commands the entrance of the Cutwater (the lower estuary of the Plym), and of Sutton Pool. Mill Bay, on the w., is so deep that vessels of 3,000 tons can lie at the pier at low-water. Here are the important Great Western Docks, covering 14 acres, with depth of 22 ft. Near these docks, and connected with them by a tram-line, are the railway termini. In 1880 there entered the port 3,665 vessels, of 726,937 tons; cleared 2,943, of 639,455 tons. The commerce is considerable with the Cape of Good Hope, the W. Indies, and the Mediterranean; the coasting trade also is important, and the fisheries are productive. Pop. (1871) 70,091; (1881) 77,401.

P., described by Leland as being, in the reign of Henry II., 'a mene thing, an inhabitation of fishars,' was called by the Saxons Tameorworth (town on the Tamar); after the Conquest it was called Sutton (South Town); and it was not till the reign of Henry VI. that it received the name of Plymouth (mouth of the Plym). During the 14th and 15th c. it was frequently attacked and set on fire by the French, and 1512 an act was passed for the strengthening of its defenses, which since then have greatly increased, until now all the shores of the Sound are well defended by cannon, and a cordon of inland forts has been constructed at immense cost, surrounding the Three Towns at a distance of two to three miles.

PLYMOUTH BRETHREN, or **PLYMOUTHITES**: religious sect, styling themselves simply BRETHREN, which sprang into existence about 1830–35 in Plymouth, Dublin, and other places in the British islands, and which has extended itself considerably in the British dominions and in parts of the continent of Europe, particularly among the Protestants of France, Switzerland, and Italy, and somewhat in the United States. **PLYMOUTHISM**, n. *-ism*, the tenets of the P. B.—The *Plymouth Brethren* seem to have originated in a reaction against exclusive high church principles as maintained in the Church of England, with everything of a kindred nature in other churches, and against a dead formalism associated with 'unevangelical' doctrine. Many of the first members of the new religious communities formed in Plymouth and elsewhere were retired Anglo-Indian officers, men of unquestionable zeal and piety; and these communities began to appear almost simultaneously in a number of places. Their origin is, however, to be ascribed largely to the labors and influence of Mr. Darby, from whom the P. B. on the continent of Europe are generally called *Darbyites*. Mr. Darby was a barrister, moving in the highest circles of society; and under deeply religious impressions, became a clergyman of the Church of England, and lived for some time in a mud-hovel in the county Wicklow, Ireland, devoting himself to his work; but afterward left the Church of England from conscientious scruples, and became an evangelist unconnected with any church. In this character he labored both in England and on the continent of Europe, preaching in French, English, and German. He also gave utterance to his opinions in numerous pamphlets, and in a quarterly periodical called *The Christian Witness*, which was the 'organ' of the Plymouth Brethren. He continued for many years to visit the communities or meetings of Plymouth Brethren. His tenets, and those of the P. B. in general, are strictly Calvinistic: original sin and predestination, the efficacy of Christ's sacrifice, the merit of his obedience, the power of his intercession, the gracious operations of the Holy Spirit in regeneration and sanctification, are prominent points. Millenarian views also are generally entertained by the P. B.; and they usually practice the baptism of adult believers without regard to previous infant baptism. They acknowledge the sacrament of the Lord's Supper, and administer it to one another in their meetings, usually on every Sunday, or 'first day of the week;' in this as in everything else, refusing to acknowledge any special ministers. They utterly reject the rite of confirmation. Their most distinctive peculiarity, in contrast with other Calvinistic churches, is their complete rejection of ecclesiastical organization. They suppose the whole Christian body in the world to have declined from the simplicity of truth and duty, like Israel of old, and therefore to have been 'corporately rejected of God,' and believe the true church to consist of themselves and of other chosen ones in the various Christian churches. They refuse to recognize any form of church government, or any office of the ministry; they insist much on the equal right of every *male* member of the church to 'prophesy' or preach; and in their meetings, after each hymn or prayer, there is usually a pause, that any one, moved by the Spirit, may undertake this office. They exclude persons known to have been guilty of gross sins from participation with them in the Lord's Supper, until proof is afforded of repentance. The P. B. reject every distinctive appellation but that of Christians; though a special denomination is found necessary to designate them; and, in fact, no one not holding their views could remain associated with them. A great schism took place among them in consequence of doctrines preached at Plymouth and Bristol concerning the human nature of Christ, Mr. Darby vigorously opposing what he deemed a dangerous error, and he and his adherents utterly separating from the fellowship of those who maintained or even refused to condemn it. One of the most noted (if not notable) converts to the principles of the sect was the revivalist Guinness, who was baptized 1860 by another Plymouth brother, Lord Congleton.

On the continent of Europe the P. B. have in many places given great trouble to the Prot. churches by their opposition to all ecclesiastical order or organization. See works by Mrs. Grattan Guinness (1861) and Dennett; and hostile criticisms by Carson (1870), Reid (1874), and Croskery (1879).

PLYM'OUTH-CLOAK: in *slang*, a cudgel.

PLYMOUTH SOUND: well-known roadstead off the s.-w. coast of Devonshire; important as a naval station, and with considerable claims to be called, as it frequently has been, the most beautiful estuary on the English coast. Its position at the entrance of the English Channel is much in its favor. It is two and a half m. wide, and extends inland three m., penetrating into the country by means of the harbors of Hamoaze and Catwater, the estuaries of the Tamar and Plym respectively. On its w. side is Cawsand Bay. The shores, which present many beautiful views, rise in hills 100 to 400 ft., and are dotted with woods and with villages, and bound by coasts mostly rocky and abrupt. Mount Edgecombe Park, the beautiful seat of the Earl of Mount Edgecombe, occupies the w. shore. At the mouth of the Tamar is the small island of St. Nicholas, or Drake's Island, a pyramidal rock strongly fortified. The Sound is open to the s.w., from which direction strong winds frequently blow, and violent surges are thrown in from the Atlantic. A massive stone breakwater, 1,700 yards in length, costing about £1,500,000, was completed 1841: see BREAKWATER. On a sunken rock just inside the breakwater and at its centre, a strong stone fort has been erected; and an extensive series of stone batteries has been built at Bovisand and Picklecombe on the mainland, on either side of the entrance to the harbor. 14 m. s.s.w. of Plymouth is Eddystone Light-house: see EDDYSTONE.

PNEUMA-, prefix, *nū-ma-* [Gr. *pneuma, pneumatos*, wind, air; *pneō*, I breathe]: pertaining to or connected with the air, gases, or breath.

PNEUMATIC, a. *nū-măt′ĭk*, or Pneumat′ical, a. *-ĭ-kăl* [Gr. *pneumatĭkos*, pertaining to breath, spiritual; *pneuma*, wind, air—from *pneō*, I breathe: F. *pneumatique*]: of or relating to air, to breath, or to a gas; moved or played by means of air or wind; pertaining to pneumatics. Pneumat′ically, ad. *-lĭ*. Pneumat′ics, n. *-ĭks*, science which treats of the mechanical properties of air, and aëriform fluids, e.g., their weight, pressure, elasticity, motion, etc. The great representative of the aëriform fluids is the atmosphere. The atmosphere is frequently called 'air,' to distinguish it from the others known as 'gases.' The fact of air having weight, and generally exercising pressure and resistance, was unsuspected by most of the ancients, though they were aware of the resistance in particular cases, from seeing and feeling the effects of the wind; but the idea that air in a state of rest exerts pressure on a body immersed in it, seems never to have occurred to them. Aristotle, however, asserted that air had weight, and so did several subsequent philosophers; but the truth of this was established first by Torricelli (q.v.), who also found the amount of this weight or pressure. See Atmosphere. Pascal (q.v.) completed the investigation, and invented the Barometer (q.v.). The experiments of these philosophers proved that what is called 'suction' is nothing more than an effect of the pressure of the air on one side of a body, unbalanced by an equal pressure of air on the opposite side of it. To this property of air are due the working of the various kinds of Pumps (q.v.), the Barometer (q.v.), the siphon, cupping-glass, etc. But the great distinguishing feature of aëriform substances is the repulsive force of their molecules toward each other, and the consequent expansion of these substances when pressure is removed, or compression when pressure is increased. The expansibility and compressibility of air was investigated by means of the Air-pump (q.v.), an invention of Guericke (q.v.), and soon resulted in the discovery of a law by Boyle (about 1650), and Mariotte (1676), called *Mariotte's Law* (q.v.), which affirms that 'at a given temperature the volume of a gas is inversely as the pressure.' See Gases. The second great law of tension and pressure is that of Dalton and Gay-Lussac (1801), which states that 'when the tension remains the same, the density of a gas varies inversely as the temperature'—i.e., when the temperature is increased by equal increments, the bulk is increased by equal increments. The motion of gases is subject to the same laws with that of liquids, since those laws depend for their efficacy not on the liquidity, but on the fluidity (see Fluid) of these substances. The flow of gases in tubes seems retarded by friction against the sides, in the same way as that of water is, and the diminished efflux at an orifice shows that the *vena contracta* exists for gases as well as for liquids. For examples and further explanations of the properties of air, see Atmosphere: Balloon: Barometer: Diving-bell: Magdeburg Hemispheres: etc.

PNEUMAT'IC DISPATCH': mode of sending parcels, mail-bags, or telegram papers through a tube by atmospheric pressure, or by a partial vacuum. Early in the 19th c. Mr. Medhurst in England proposed air-tight tunnels, with carriages moving through them on rails, and propelled by compressed air from behind, or by suction through a vacuum formed in front. See ATMOSPHERIC RAILWAY.

In 1861 was announced in London a *Pneumatic Dispatch* project for parcels and mail-bags, based on a reconsideration of causes of failure in earlier schemes. An experimental quarter-mile of iron tube about 30 inches in diameter was laid down in Battersea, through which it was found easy to propel a train of two iron carriages of 7 cwt. each, at a rate of 30 m. an hour. A *Pneumatic Dispatch Company* began operations in London 1863. Later, a tube nearly 4½ ft. diameter, 2¾ m. long, was laid down at as small a depth beneath the carriage-way of the several streets as the water and gas pipes would permit. It is chiefly of cast-iron; but some portions on a sharp curve are of brick. A large engine near Lincoln's Inn Fields, actuating a peculiar revolving fan of great dimensions, supplies the power for working the whole tube in both directions. Rarified air in one-half of the tube draws a train of iron carriages, laden with parcels and mail-bags, from Euston Station to Holborn; and compressed air drives them through the other length of tube from Holborn to the general post-office—there being suction in one case, and pressure in the other: a reverse action brings trains in the other direction. This mode of transmission, in general use, would make great saving of time in delivery of letters and parcels, and desirable lessening of the number of parcels, and mail-vans and carts in over-crowded streets. But the work, so successful in a scientific and engineering point of view, remains undeveloped in a commercial sense; and this costly tube and engine-house have been unused for several years. The problem of *passenger* conveyance within a pneumatic tube was shown practicable at the Crystal Palace 1864 but nothing further has been done in the matter.

More success has attended the introduction of a system for transmitting small rolls of paper through tubes of a few inches diameter, by pneumatic pressure. Siemens introduced it at Berlin; it was tried with success next at Paris; then in London, where it is still in regular use in the telegraph department of the new buildings connected with the general post-office in St. Martin's-le-Grand, as also in some of the chief provincial cities and towns. In 1875 the number of tubes in London was 24, with aggregate length of nearly 18 m. Small tubes, two to three inches in diameter, are arranged for reception of telegram forms or papers, made into a roll, and put into a felt cylinder: these cylinders are *blown* through the tubes at a rate of 30 m. an hour, instead of being sent by street conveyance. Of the two parallel tubes beneath the pavements, one in each pair may be called the down line, the other the up; the two are placed in connection at each end; and one steam-engine works them both. The felt cylinder very nearly fills up the tube, but stills moves easily along it. An ingenious plan, one of the most beautiful of Siemens's inventions, is adopted for accommodating one or more intermediate offices, like local stations on a railway. The felt cylinder and its contents being very light, a slight rarefaction of the air in front, or condensation of the air behind, produces a speed of 20 or 30 m. an hour. Practically, there is a *current* of air maintained, circulating through the two tubes and their terminal connections; wherever a 'carrier' (cylinder) is placed in this current, it is blown along; and there may be two or more carriers travelling at the same time.

PNEUMATIC DYNAMITE GUN, machine for projecting to great distances, by means of compressed air, a shell heavily loaded with dynamite, to be exploded by impact or by time-fuse. (See CANNON: GUN: GUNNERY: ETC.) It is designed chiefly for coast defense, either on land-stations or on cruisers. For some years it has been in experimental stages, its development having been due largely to Lieut. E. L. Zalinski of the U. S. army. It has recently been brought to comparative perfection by the immersion-and-impact fuse, invented by Henry P. Merriam, of New York, and by various improvements due to the fertile genius of Capt. John Rapieff, of the Russian artillery, now chief engineer of the (Amer.) Pneumatic Dynamite Gun Co. The perfected gun (one of six ordered by the Brit. govt.) made by the West Point Foundry Co., at Cold Spring, N. Y., was tested there 1890, July 8, in presence of Brit. and U. S. officers. The barrel, of five sections united, is 50 ft. long, 3 in. thick, weighing 73,000 lbs., with 15 in. calibre, and is supported by hollow trunnions through which, from reservoirs on both sides, the compressed air (which is the projecting force) enters an iron jacket around the breech, whence by automatic valves it is admitted to act on the projectile. The air, compressed by engines, is first stored in the storage reservoir at 2,000 lbs. pressure, and from this is admitted to the firing reservoirs or boxes with 1,000 lbs. pressure, or less at will, being regulated by an automatic firing-valve. The sighting apparatus, designed by Lieut. Zalinski, is attached to the left trunnion, and consists of telescopes so arranged as to meet all requirements, even the lateral movement of wind or current. Elevation and training to any point of the compass are operated by electric or water motor; one man can do all with his hand on a lever, except loading the projectile, which is brought into position by a carriage on a circular railway. The projectile has demanded as much ingenuity as the gun, the objects being to secure safety in handling, to prevent explosion at start, to time the explosion when the purpose is to produce it under water, likewise to effect it immediately when a solid is struck. The shell has a front chamber with very complicated apparatus —a piston held by a safety latch, unlocked when the piston is depressed by atmospheric resistance (after the shell is fired); the piston is perforated by a spindle which revolves by action of air on its projecting flanges, until, owing to its screw-thread, it drops out and releases a spring supported steel ball, that, at the instant of impact with water, falls on percussion caps; these ignite time-trains of gunpowder connecting with fulminating mercury and auxiliary gun-cotton. The piston-head itself, as well as a set of percussion caps, insures the same if the shell strikes a solid such as an enemy's ship. The arrangement is such as to start the explosion at the rear end of the shell, thus increasing the penetrating power. At the trial above mentioned, July 8, dynamite was prohibited, but the results satisfied the Brit. officers. The contract required a 200 lb. shell to be thrown 3,500 yds. (about 2 m.); 520 lbs. was thrown 4,008 yds. (about 2¾ m.). A full calibre projectile weighs 1,000 lbs., of which half would be dynamite, and the range would be nearly 1½ m.; and a sub-calibre shell with 50 lbs. of dynamite could be thrown nearly 3½ miles.

The final test of the guns of the dynamite cruiser *Vesuvius* took place 1890, March 13, on the Delaware river; a 204 lb. shell, filled with gun-cotton, was thrown a third beyond the required mile, with only 700 lbs. pressure. The *Vesuvius* has 3 P. D. guns; the sub-calibre shells, 10½ in. diam., carry 201 lbs. of explosive gelatine and dynamite; the full calibre, 15 in. diam., carry 600 lbs. charge—the largest movable torpedoes made. Seven of the new perfected guns are being built for the U. S. govt., of which three will be stationed at Sandy Hook, two at Fort Schuyler, and two at Fort Warren. Experiments by Dr. Justin, of Syracuse, N. Y., in firing dynamite shells by the force of gunpowder, have not all been satisfactory; one shell of 295 lbs., containing 14½ lbs. of dynamite, was fired successfully (1890, Aug. 26), from a 9-in. bore cannon, with 30 lbs. of powder; but, on a second attempt, the gun was blown to pieces. He inclosed a brass shell of dynamite in a larger one of steel, with an air space between the two. A later experiment succeeded well.

PNEUMATIC TROUGH: chemical apparatus devised by Priestley, now in daily requisition in every laboratory, by which gases can be collected in vessels for experiments or examination, and can be decanted, like liquids, from one jar to another. It consists of a vessel of water, provided with a ledge or shelf two or three inches from the top. The jars in which the gas is to be collected are filled with water, and placed with their mouths downward on the shelf, which is kept a little under water to prevent entrance of air into the jars. When the edge of the jar is brought over the extremity of the tube carrying the gas, the bubbles of gas rise through the water, collect in the upper part of the jar, and displace the liquid. As soon as a jar is filled, it may be removed by sliding under its open mouth while still under water a plate or tray containing enough water to cover the edge of the jar; and oxygen and many other gases may be thus preserved for hours. Another jar full of water is substituted for the removed jar. The trough is constructed best of japanned copper; and in the shelf a groove should be made about half an inch in width and the same in depth, to admit the extremity of the gas-delivering tube beneath the jar.

PNEUMATO-: see Pneuma-.

PNEUMATOCELE, n. *nū-măt′ō-sēl* [Gr. *pneuma*, air or wind, *pneumatos*, of air; *kēlē*, a tumor]: in *surg.*, a tumor or distension filled with flatus or air.

PNEUMATOCYST, n. *nū-măt′ō-sĭst* [Gr. *pneuma*, air; *kustis*, a cyst—from *kuein*, to hold]: the air-sac or float of certain of the oceanic Hydrozoa.

PNEUMATOLOGY, n. *nū′mă-tŏl′ŏ-jĭ* [Gr. *pneuma*, air or wind; *logos*, a discourse]: the science of the properties of elastic fluids; the science or doctrine of mind or spiritual existences; a treatise on them. Pneu′matolog′ical, a. *-tō-lŏj′ĭ-kăl*, pertaining to pneumatology. Pneu′matol′ogist, n. *-tŏl′ŏ-jĭst*, one versed in pneumatology.

PNEUMATOMETER, n. *nū′mă-tŏm′ĕ-tėr* [Gr. *pneuma*, air or wind, *pneumatos*, of air; *metron*, a measure]: an instrument for measuring the quantity of air which can be taken into the lungs at one inspiration.

PNEUMATOPHORE, n. *nū-măt′ō-fōr* [Gr. *pneuma*, air; *phorĕō*, I bear]: the proximal dilatation of the cœnosarc which surrounds the pneumatocyst in the Physophoridæ.

PNEUMATOSIS, n. *nū′mă-tō′sĭs* [Gr. *pneumatōsĭs*, an inflating; *pneumatoō*, I inflate—from *pneuma*, air]: in *med.*, a windy swelling.

PNEUMO-, prefix, *nū-mo-* [Gr. *pneumōn*, a lung]: pertaining to or connected with the lungs.

PNEUMOGASTRIC, a. *nū-mō-găs′trĭk* [Gr. *pneumōn*, a lung; *gastēr*, the belly]: in *med.*, of or pertaining to the lungs and stomach; applied to a nerve, the ninth nerve, extending over the viscera of the chest and abdomen. The *Pneumogastric Nerve* derives this name from its supplying the lungs and stomach with nervous filaments; and it has a second name, *Par Vagum*, from the wandering course which it pursues. It emerges from the medulla oblongata by eight or ten filaments, which unite and form a flat cord that escapes from the cavity of the cranium (in association with the glossopharyngeal and spinal accessory nerve) by the jugular foramen. In this foramen it forms a well-marked ganglionic swelling, while another is observed immediately after its exit from the skull. The nerve runs straight down the neck between and in the same sheath as the internal jugular vein and the carotid artery. Below the root of the neck its course is different on the two sides: the right nerve running along the back of the œsophagus, is distributed to the posterior surface of the stomach, and finally merges into the solar plexus; while the left nerve runs along the front of the œsophagus to the stomach, sending branches chiefly over its anterior surface.

From anatomical considerations, based on the distribution of this nerve, and from experiments on animals, it may be concluded that this is a mixed nerve, containing filaments both of sensation and of motion. The pulmonary branches exercise a most important influence on the respiratory acts; for when the pneumogastrics on both sides have been divided above the giving off of the pulmonary branches, the most severe dyspnœa comes on, the number of respirations is much diminished, and the animal breathes as if asthmatic: after a short time, the lungs become congested and dropsical, and the bronchial tubes filled with a frothy serous fluid; and if the cut ends of the nerves are kept apart, the animal never survives above three days. The gastric branches influence the movements of the stomach, while their destruction does not materially affect the secretion of the gastric juice or the process of chylification. Loss of voice and difficulty of breathing have been frequently traced to the pressure of an aneurism or other tumor on the recurrent or inferior laryngeal. Whooping cough is ascribed by many high authorities to an affection of the pneumogastric nerve; and the violent spasmodic cough which accompanies enlarged bronchial glands, is due probably to the irritation of its pulmonary branches. The sympathy between the digestive and the respiratory and circulating organs, is explained by the anatomical relations of this nerve: e.g., both asthma and palpitation of the heart are often traceable to some deranged state of digestion. Vomiting may be excited by irritation of the central or the distal extremities of the nerve. In disease of the brain, the vomiting, often an early symptom, is caused by irritation of the central extremity; and in sea-sickness, it is that extremity also which is irritated by the disturbed state of the circulation in the cranium; and by introducing emetic substances into the stomach, the vomiting is produced by irritation of the peripheral (or distal) filaments.

PNEUMONIA, n. *nū-mō'nĭ-ă*, or PNEU'MONI'TIS, n. *-nī'tĭs* [Gr. *pneumŏnes*, the lungs—from *pneuma*, air, breath]: inflammation of the substance of the lungs. PNEUMONIC, a. *nū-mŏn'ĭk*, pertaining to the lungs; pulmonic: N. a medicine for affections of the lungs. PNEUMONITIC, a. *nū'-mŏn-ĭt-ĭk*, pertaining to pneumonitis.—*Pneumonia* is divided by pathologists into three distinct stages, corresponding to different degrees or periods of inflammatory action. The first stage is that of *engorgement*, in which the lung or a portion of it is gorged with blood, is of darker color externally, and crepitates (or crackles) less under pressure than healthy lung does; the air that ought to exist in the pulmonary cells being in a great measure replaced by fluid. On cutting the engorged portion, the section is seen to be redder than natural, and to yield a great quanity of reddish and frothy serum. The most engorged portions will generally float in water, though they are heavier than healthy lung. If the inflammation continues, new characters appear. The affected portion of the lung ceases to crepitate under pressure, and sinks when placed in water, in consequence of its now containing no air. The spongy character of the lung is gone: it is now solid, and the cut surface so resembles that of liver, that the term *hepatization*, suggested first by Laennec, is generally applied to this stage. On examining with the miscroscope a torn fragment of the hepatized lung, it will be seen to be composed of small red granulations pressing on one another, which are doubtless the air-cells clogged up, thickened, and made red by the inflammation. In the third and most advanced stage, the pulmonary tissue remains, as in the previous stage, dense, solid, and impervious to air; but its section, in place of being red, is now of reddish-yellow, or straw, or drab, or stone color, or is of grayish tint; and the little granulations, red in the second stage, are now whitish or gray, from the presence of pus or matter, which permeates through the pulmonary tissue, rendering it very soft and friable. To this stage, in reality one of *diffused suppuration*, Laennec applied the terms *gray hepatization*, or *purulent infiltration*. Morbid anatomy teaches us further that inflammation does not attack all parts of the lung on both sides indiscriminately. It is much more common on the right side of the body than the left. Of 210 cases collected by Andral, 121 were on the right lung alone, and 58 on the left side alone; while in 25 it was double (i.e., in both lungs), and in six the seat was uncertain; so that P., is more than twice as common on the right sides as on the left, and occurs on both sides together only once in eight times. According to Grisolle, however, whose *Traité Pratiqae de la Pneumonie* is the standard work on this disease, the relative frequency with which the right lung is affected is rather less than two to one (11 : 6). Moreover, P. is considerably more common in the lower than in the upper lobes of the lung—a point of great importance in diagnosis. Of 88 cases observed by Andral, the inflammation was found to affect the lower lobe 47 times; the upper lobe 30; and the whole lung at once 11. Inflammation of the bronchial tubes so constantly accompanies inflammation of the tissues of the lung, that though bronchitis exists often without P., P. never occurs without bronchitis. Moreover, a certain amount of Pleurisy (q.v.) or inflammation of the investing membrane, accompanies P. in a very large majority of cases. The alterations which take place in the tissue of the lung give rise to important modifications of the ordinary sounds yielded by auscultation and percussion; whose discrimination belongs to the physician.

The following are the general symptoms, as distinguished from the physical signs, of P.: The disease commences usually with inflammatory fever; and pain in the side, due to pleurisy in most cases, soon supervenes. The breathing is always more or less affected, especially when the upper lobe is inflamed. According to Prof. Gairdner, the dyspnœa of *pure* P. is a mere *acceleration* of the respiration, without any of the heaving or straining respiration observed in bronchitis, or in cases where the two diseases are combined. Delirium is a very frequent, and always a dangerous symptom, indicating that the due arterialization of the blood is much interfered with, and that the impure circulating fluid is affecting the brain. The cough is usually dry at first, but in a few hours it is accompanied by expectoration of sputa so characteristic as to afford almost certain evidence of the disease. On the second or third day the expectoration, which previously consisted of merely a little bronchial mucus, consists of transparent and tawny, or rust-colored sputa, which unite in the vessel containing them into one gelatinous mass. The color is owing to the complete blending of the blood and mucus, and in proportion to the quantity of the former, the sputa is more or less deeply tinged. So long as the expectorated matter flows readily along the side of the vessel when it is tilted, there is reason to believe, unless physical signs show otherwise, that the inflammation is still in the first stage; but when the sputa are so viscid that the vessel may be inverted and strongly shaken without their being detached, there is reason to fear that the P. has reached the second stage. If improvement now commences, the sputa become less tenacious, less rust-colored, and gradually like the expectoration of common catarrh. But if the disease advances, the rust-colored sputa, though in less quantity, may go on to the end; or there may be no expectoration, either on account of its own tenacity, or of the patient's want of power to eject it, in which case the air-passages are gradually filled, and death from suffocation occurs; or there may be the expectoration of a fluid of the consistence of gum-water, and of a brownish-red color (resembling prune-juice), which, according to Andral, affords strong evidence that the disease is in its third stage; or, lastly, pure pus may be excreted during the third stage.

In its first and second stages this disease is moderately amenable to treatment. Whether when the lung has reached the third stage it is still susceptible of repair, we cannot tell, because we have no certain sign of the commencement or establishment of this third stage during life, though we may guess that it is established, if the face has become very pale and corpse-like; if there is the prune-juice or purulent expectoration; and if the disease has lasted for a sufficient time to have advanced so far, though it is scarcely possible to state what the necessary time is. The average duration of P. may be placed at ten days or a fortnight.

Sometimes no cause of this disease can be traced. Very often it is the consequence of exposure to cold, especially when the body was previously heated by exercise; but why such exposure should in one person cause P., in a second pleurisy, in a third pericarditis, and in a fourth peritonitis, is not known.

The treatment should be under professional direction, and in the first stage involves an antiphlogistic regimen generally. In the second stage, if there is great depression of the vital powers, indicated by feeble and irregular pulse, and other ordinary signs of sinking, it will be requisite to administer stimulants, such as wine and carbonate of ammonia, and to feed the patient on beef-tea.

There are few diseases in which assiduous and unceasing nursing is more important than in P. Especially during convalescene must the patient be watched closely; for the convalescence is often rather apparent than real. 'A patient can never be pronounced perfectly secure so long as any trace of crepitation remains in the affected lung, and this may often continue long; nay, it not unfrequently ceases only on the supervention of another more surely fatal though less rapid disorder—tubercular consumption.

PNEUMOTHORAX, n. *nū'mō-thō'răks*, or **PNEU'MATOTHO'RAX**, n. *-mă-tō-thō'răks* [Gr. *pneuma*, air; *thōrax*, the chest]: the escape of air or gaseous effusion into the pleura through a laceration of the lung.

PNYX, n. *nĭks* [Gr. *pnux*]: the place west of the Acropolis in anc. Athens where the *ekklesiai* or meetings of the people were held.

PO, *pō* (anc. *Eridanus* and *Padus*): largest river of Italy; rising in two springs on the n. and s. sides of Monte Viso, one of the Cottian Alps, close to the French frontier; lat. about 44° 40′ n. It flows e. more than 20 m.; and arriving before Saluzzo, it emerges from its rocky defiles, and enters upon the plain, flowing n.n.e. past Turin; and at the town of Chivasso, turning e. to its embouchure in the Adriatic. More than 50 m. above its mouth, it begins to form its delta, the principal branches being the *Po della Maestra*, on the n., and the *Po di Primaro* on the s. The unhealthy marsh of the *Valli de Comacchio* extends immediately n. of the Primaro branch. The Po receives from the left, the Dora Riparia, Dora Baltea, Sesia, Ticino, Adda, Oglio, and Mincio; from the right, the Tanaro, Bormida, Trebbia, Taro, Parma, Enza, Secchia, and Panaro. At Turin, the Po is about 750 ft. broad; at Pavia, 1,050 ft.; at Cremona, 2,650 ft.; below Polesella, after throwing off the Po di Primaro branch, its breadth is about 850 ft. Its total length is 400 m.; it becomes navigable for small barges 60 m. from its source, and drains nearly 40,000 sq. miles.

PO'A: see MEADOW GRASS.

POACH, v. *pōch* [OF. *pocher*, to thrust or dig out with the fingers—land was said to be poached when it was trodden into holes and mire by heavy cattle: F. *pocher*, to bruise (see POKE 1)]: to intrude or encroach upon the grounds of another to steal or plunder, especially game; to take game by unlawful means; to plunder by stealth; to cook by boiling slightly, as eggs broken and poured among boiling water, or cooked with butter. POACH'ING, imp.: N. trespass in pursuit of game; the employment of a poacher (see below). POACHED, pp. *pōcht:* ADJ. stolen; slightly boiled or dressed, as eggs broken among boiling water. POACH'ER, n. *-ėr*, one who steals game. POACH'Y, a. *-ĭ*, wet and soft, as land; swampy. POACH'INESS, n. *-ĭ-nĕs*, state of being wet and soft, as land; swampiness. *Note.*—Skeat suggests that a 'poached egg' is the same as 'pouched egg'; the egg is likened to a pouch, because the art is to dress it in such a way as not to let the yolk escape. F. *pocher* may in this case be derived from *poche*, a pouch.

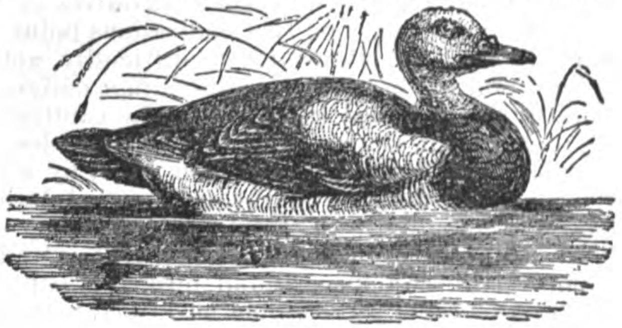
POACHARD, *pōch'ėrd*, or POCHARD, n. *pō'chėrd* [from POACH]: species of duck: see POCHARD.

POACH'ING: not strictly a legal term, yet in such wide popular use in Great Britain that it is frequently used in legal works, to denote trespassing on another's lands to catch or pursue game; likewise to denote the cognate offense of unlawfully catching or pursuing fish in another's waters. The British laws are voluminous and severe on this class of offenses; and the customary defense of this severity is based on the statement that P. is only stealing under a milder name—game being as really the fruit of the soil as apples; and further, that the transition from P. to actual stealing is easy and even inevitable. See GAME, for the general law; and particularly for English laws, Oke's *Game Laws*, by Bund, 7th. ed. See also Paterson's *Fishery Laws*, and Oke's *Fishery Laws*, by Bund, 2d. edition.

POACITES, n. plu. *pō'ă-sīts* [Gr. *poa*, grass]: in *geol.*, fossil monocotyledonous leaves; a general term for fossil grass-like leaves.

POCAHONTAS, *pō-ka-hŏn'tas:* Indian princess: about 1595–1616, Mar. 21; b. Va.; daughter of Powhatan, who was chief of a confederacy of more than 40 clans of Indians of Algonquin connection and speech, whom Captain John Smith, in the first year of the planting of the English colony in Va. (1607), found in possession of all Va. below the falls of the James and Chickahominy rivers. In exploring the upper course of the Chickahominy, and venturing inland with a single Indian guide, Smith was captured, 1607, Dec., and, as he told the story, escaped death, after a formal condemnation, only by the intervention of P., then a girl of about 12 years, who threw herself upon him just as her father's club was raised to dash out his brains. Doubt has been thrown on the story on the ground that of three narratives of Smith's experience, only the third, 12 years after the events, and not wholly by him, has any reference to the romantic incident. To this, the reply is made that part in the earlier narratives is known to have been suppressed, and that indications point to the paragraph relative of Powhatan's unfriendly action as having been omitted lest it should discourage emigration to Va. Smith was detained seven weeks in captivity, and then sent home in charge of 12 Indian guides. The friendly interest of P. was later shown, 1609, by a visit to the colony to give Smith news of an intended Indian attack, and by the supplies of corn sent by her on several occasions. Capt. Argall, an adventurer seeking trade with the Indians on the Potomac, found means to capture P., with the aid of a chief there whom he bribed with a brass kettle; and her detention at Jamestown, where Argall carried her, would have made trouble for the colony, had not a young Englishman, John Rolfe, a respectable colonist who had won her favor, made an offer of marriage, to which Powhatan willingly consented. P. was baptized as Rebecca, was wedded 1613; and 1616 was taken to England with her husband and several Indian attendants. She was greatly admired for her modest and graceful demeanor, and, on Smith's report of her services to himself and the colony, was made recipient of many social attentions, being entertained by the Bp. of London, and presented by Lady De la Warr to King James. As an Indian princess, she was styled Lady Rebecca. Her husband was provided with the office of sec. to the colony. P. never learned to write. She died of small-pox at Gravesend, just as she was about to return to Va. An infant son, Thomas Rolfe, survived, and through him, many leading families of Va., e.g., the branch of the Randolphs from which John Randolph of Roanoke was descended, trace descent from the princess.

POCHARD, *pō'chėrd*, or POACHARD, *pōch'ėrd* (*Fuligula*): genus of ducks, of the oceanic section (see DUCK), having the bill as long, or nearly as long as the head, broad and very flat, a little dilated toward the tip, the lamellæ of the upper mandible not projecting beyond the margin, the wings and tail short, the tail rounded. The windpipe of the male, in all the the pochards, terminates in a labyrinth composed partly of bone and partly of membrane. There are numerous species, some of them natives of the arctic regions; some found, at least in winter, on the coasts of most parts of N. America, Europe, and Asia; and some in the s. hemisphere.—The RED-HEAD or AMERICAN POCHARD (*F. ferina americana*) has the iris orange, and the head and neck of pure chestnut, with bronzy or coppery-red reflections, whereas the Canvas-back (for which it is often sold) has the head and neck dark reddish-brown, dusky on top and around the bill.—The EUROPEAN POCHARD (*F. ferina*), known also as the Dun Bird, Red-headed Poker, and Red-eyed Poker, has the same fine waved lines on the back as the two above mentioned, but the ground is white, as in the Canvas-back, which, however, has the lines mostly broken up into little chains of dots. The European P. is smaller than the mallard, but rather larger than the wigeon. The head and neck are bright chestnut, the eyes red, like the eyes of the Canvas-back. It is esteemed for the table. Great numbers are sold every winter in the London market. —The **Tufted Duck** (*F. cristata*) is a frequent winter visitant of bays, estuaries, and lakes of Britain; it is a plump and short bird; black, with a white bar on the wing; the breast, belly, and sides white; and the occipital feathers are elongated.—The **Canvas-back Duck** (*F. Valisneria*) of N. America is a species of P., very like the Common P., but much larger, with the bill higher at the base, and less dilated toward the tip. The upper parts are whiter. The Canvas-back Duck breeds in n. parts of America, and migrates southward in flocks in autumn. In winter it abounds on the Chesapeake and its tributaries, and is common southward to New Orleans, often collecting in very large flocks, particularly toward evening. It is very shy, but vast numbers are killed, as it is in very high regard for the excellence of its flesh, due to feeding, in some localities, on *Vallisneria spiralis* (Tape-grass, Eel-grass, called Wild Celery); otherwise the flesh has no claim to superiority. Of the same genus are the Greater and the Lesser Scaup Ducks and the Ring Neck, all of N. Amer. Some have separated these as *Fulix*, the Canvas-back as *Aristonetta*, and the Crested Pochards as *Fuligula*.



Pochard (*Fuligula ferina.*)

Canvas-back Duck (*Fuligula valisneria*).

POCK, n. *pŏk* [Dut. *pocke*, a pustule or bubble, as of morbid matter on the flesh: Ger. *pocke;* AS. *poc*, a pock]: a pustule or small bubble on the skin full of morbid matter in an eruptive disease, as the small-pox. **Pocky**, a. *pŏk'ĭ*, infected with small-pox; full of pocks. **Pock'iness**, n. *-ĭ-nĕs*, the state of being full of pocks. **Pock-mark**, one of the pits or scars left by the small-pox. **Pock-pitted**, marked by the scars left by small-pox. **Pock-pudding** [see Poke 2]: in *Scot.*, a pudding, generally of oatmeal, cooked in a cloth bag or covering; a glutton; an opprobrious epithet applied by old Scotch writers to Englishmen.

POCKET, n. *pŏk'ĕt* [F. *poche;* Guernsey, *pouquette*, a small sack: O.Norm. *poque;* Dut. *poke*, a pocket]: a small pouch or bag attached to or inserted in a garment; in *billiards*, one of the nets that receive the balls; a certain quantity contained in a bag, as of hops: V. to put or conceal in a pocket; to take secretly. **Pock'eting**, imp. **Pock'eted**, pp. **Pock'etful**, n. *-fûl*, plu. **Pock'etfuls**, as much as a pocket will hold. **Pocket-book**, a case containing a memorandum-book, loose papers, etc. **Pocket-glass**, a portable looking-glass. **Pocket-handkerchief**, a napkin of silk, linen, or cotton carried in the pocket for use. **Pocket-knife**, a knife with one or more blades which fold into the handle. **Pocket-money**, money allowed for occasional or petty expenses. **Pocket-picking**, the act or practice of stealing from the pocket. **Pocket-pistol**, a firearm that can be carried in the pocket; *familiarly*, a flask of liquor carried in the pocket. **To pocket an insult or an affront**, not to resent it or seek redress. **Pocket of hops**, a bag of hops—from ½ to 2 cwts.

POCO, ad. *pō'kō* [It.]: in *music*, a term indicating the measure of the time, force, movement, etc., and signifying a little: e.g., *poco animato*, rather animated; *poco forte*, abbreviated *pf.*, rather loud; *poco a poco*, by degrees, little by little; *poco a poco crescendo*, becoming loud by degrees; *poco a poco rallentando*, becoming slower by degrees.

POCOCK, *pō'kok*, **Edward, d.d.**: eminent Oxford prof. of oriental languages: 1604, Nov. 8—1691, Sep. 10; b. and d. Oxford, England. He graduated there 1622; edited the Syriac versions of II Pet., and II and III John; pursued his study of oriental languages while English chaplain at Aleppo 6 years; returning 1636, when he was made prof. of Arabic at Oxford. He visited Constantinople 1637–39 seeking MSS.; afterward, while holding his chair at the univ., was appointed rector of Childrey, Berkshire (1643), and nominated prof. of Hebrew and canon of Christ Church, 1648. Among his publications were an [illegible] edition, with Latin translation, of portions of the Arabic writings of Abulfaragius, under the title *Specimen Historiæ Arabum* (1648-50);—his chief work being his edition of *Gregorii Abul Farajii Historia Dynastiarum*, Oxford 1663, discourses on the Mishnah commentaries of Moses Mainonides, entitled *Porta Mosis* (1655); Latin translations of the *Annals* of Eutychius (1658); Arabic translation of the *De Veritate* of Grotius; Latin translation of poem by Ismael Thograi; Arabic translation of the Church catechism and liturgy; commentaries on the prophets Micah, Malachi, Hosea, and Joel (1677–91). He gave important aid in preparation of Walton's Polyglot Bible (1657), being consulted throughout by Walton. His life and theol. writings were edited by Leonard Twells (1740). One of his sons, Edward, was author of translations from the Arabic; and another, Thomas, from the writings of Menasseh ben Israel.

POCULIFORM, a. *pŏk'ū-lĭ-fawrm* [L. *poculum*, a cup; *forma*, a shape]: in *bot.*, cup-shaped.

POD, n. *pŏd* [Dan. *pude*, a pillow: Esthon. *paddi*, a cushion, a pad: Bret. *pod*, a pot: of Celtic origin—comp. Gael. *put*, a large buoy]: the pericarp or seed-vessel of such plants as the pea, bean, etc. (see LEGUME): V. to swell or fill, as a pod; to produce pods. **POD'DING**, imp. **POD'DED**, pp.

POD-: see PODO-.

PODAGRA, n. *pŏd'ă-gră* [L. and Gr. *podagra*, gout in the feet—from Gr. *pous* or *poda*, a foot; *agra*, a seizure]: the Gout (q.v.). **PODAG'RIC**, a. *-ăg'rĭk*, or **PODAG'RICAL**, a. *-rĭ-kăl*, pertaining to the gout; gouty.

PODARGUS *pō-dâr'gŭs:* genus of birds of family *Caprimulgidæ* nearly allied to the true Goat-suckers (q.v.), but having no connecting membrane at the base of the toes, and the middle toe not pectinated. Some interesting species are natives of Australia, strictly nocturnal in their habits, and remarkable for the difficulty with which they are roused from their sleep by day. *P. humeralis* may be pushed off a branch, and seems scarcely to waken so as to save itself from falling to the ground; and if two are sitting together, as is usually the case, one may be shot without its mate being much disturbed. But by night this bird is all activity.—*P. Cuvieri*, disturbs the night by a hoarse cry, resembling the syllables *More Pork*, by which name it is therefore known in New South Wales.

PODESTA, n. *pō-dĕs-tâ'* [It. *podestà*—from L. *potestas*, power, authority]: Italian municipal magistrate. The name was applied first to foreign magistrates with supreme authority, whom Emperor Frederick Barbarossa placed over the Italian towns, after subjugating them. In the 13th and 14th c. an officer bearing the same designation appears, at first occasionally, like the Roman dictator, afterward in most Italian cities as a permanent magistrate, appointed either by the constituent parliament, or by the Great Council; he superseded all the ordinary magistrates, the military officers, and occasionally the judges. The cause of appointing such an officer was the jealousy between the richer citizens and the nobles; the P. was a stranger, generally belonging to the nobility, and prohibited during his term of office from forming any intimate connections in the city which he governed. His chief duty was the execution of summary justice on the lawless barons; and in the great Lombard towns he generally obtained a predominance for the citizens. Occasionally, however, the P. became too strong for both parties, securing his re-election during a succession of years, and becoming the despotic ruler of the city.—The name is given in many Italian towns to an inferior municipal judge.

PODETIUM, n. *pŏd-ē'shĭ-ŭm* [Gr. *pous* or *poda*, a foot]: a stalk-like elevation, simple or branched, rising from the thallus in some lichens.

PODGE, n. *pŏj* [Ger. *patsche*, a puddle, mire: Bav. *batzen*, a lump of soft materials]: a puddle; prov. Eng. for *porridge*. HODGE-PODGE, a mixed mass; a medley of ingredients: see HODGE-PODGE. PODGY, a. *pŏj'ĭ*, dumpy and fat.

PODGORITZA, *pŏd-gō-rĭt'sâ:* fortified town of Montenegro, in the district ceded to Montenegro by Turkey in terms of the treaty of Berlin; about 35 m. n. of Scutari. Pop. about 7,500.

POD'ICEPS: see GREBE.

PODIEBRAD, *pod-yā'brâd*, AND **KUNSTAT**, *kûn'stât*, GEORGE BOCZKO OF: powerful Bohemian noble, of the Hussite party: 1420–1471, Mar. 22; son of Herant of Kunstat and Podiebrad. While still a youth he threw himself, with all the ardor and resolute force of his nature, into the Hussite struggles. Like the rest of his family, however, he adhered to the moderate party of the Hussites during the govt. of King Sigismund; but when, on the death of that monarch, the Rom. Cath. barons (1438) carried the election of Albrecht V. of Austria (II. of Germany), P. allied himself with the Utraquist Orders in Tabor, and offered the sovereignty of Bohemia to Casimir, King of Poland. Albrecht immediately declared war against him, and invested Tabor, but was forced by P. to raise the siege, and retire to Prague. From this time P.'s influence was firmly established among the Utraquists; next to Lipa, he was the first man of the party. When Albrecht died (1439) Lipa was appointed regent during the minority of the new king Ladislas; but five years later Lipa died, and P. obtained the government of the country. He, however, was ambitious for the royal dignity In 1449 he one night seized the capital, drove away all the Rom Cath. barons, and even imprisoned his colleague in the regency, Meinhardt von Neuhaus. This outrage led to a year or so's fighting—the final result of which was that P. was acknowledged gov. or regent by the whole of Bohemia. On the death of Ladislas 1457, P. managed to be chosen his successor, and was crowned 1458, May 7. From this period he began to show the full power of his administrative genius. He reorganized the forms of education and religion, and strove to bring about a peaceful settlement of the religous dissensions that had desolated the land. He even went the length of respectfully soliciting the papal co-operation in his humane endeavors; but the pope would have no dealings with this Samaritan ruler, and 1463, Dec., publicly proclaimed him a heretic. All the neighboring princes sent letters to Rome, exhorting or imploring the pope to moderation; but the only answer which Pius II. gave them was placing P. under the ban of the Vatican. Shortly afterward Rudolf, the papal legate, excited the Rom. Catholics of Bohemia to insurrection. P. tried every means of conciliation, but in vain. 1466, Sep., a German Rom. Cath. army burst into Bohemia, but this host of pseudo-crusaders was annihilated at Riesenberg. Once more Pius excommunicated P., and in addition induced Mathias (q.v.) of Hungary to invade Moravia. The Bohemian king appealed to a universal council, but he also prepared to meet force with force. Summoning back from abroad the banished Taborite warriors, he crushed the insurrection, and compelled his enemies to grant him an advantageous armistice. In 1467 his son Victorin, on the renewal of hostilities, invaded and devastated Austria, while the Hungarians who had invaded Bohemia were surrounded at Vilemov, and forced to cease from hostilities. In spite of the magnanimity shown by P. on this occasion, Mathias acted falsely toward him; and in the following year had himself crowned King of Bohemia and Markgraf of Moravia. P., instantly summoned the Bohemian diet and proposed to the assembled orders that they should take the king of Poland as his successor, while his own sons should merely retain the family possessions. By this means he obtained the Poles for allies; Emperor Friedrich also declared in his favor, while his Rom. Cath. subjects were reconciled to him, so that the Hungarians found it advisable to conclude a peace. After his death his sons, Victorin and Henry of Münsterberg, fell back into the ranks of the Bohemian aristocracy; but in the stormy days that followed they rendered good service to their native land.

PODIUM, n. *pō'dĭ-ŭm* [L. *podĭŭm*, a balcony]: pedestal continued horizontally to form a low wall on which columns may be set. Like the pedestal, it has a lease, die, and corona, all continued. When the P. breaks forward so as to form a pedestal for a column, it is called the Stylobate.

PODO-, prefix, *pŏd-o-* [Gr. *pous*, *podos*, a foot]: belonging to, connected with, or situated on or near the foot.

PODOCARP, n. *pŏd'ō-kârp* [Gr. *pous* or *poda*, a foot; *karpos*, fruit]: in *bot.*, the stem supporting the fruit.

PODOCARPUS, *pŏd-o-kâr'pŭs:* genus of trees of nat. order *Coniferæ*, sub-order *Taxineæ*, the order *Taxaceæ* of some botanists. The leaves, like those of the allied Gingko tree, have remarkable resemblance to the fronds of ferns. The species are natives of New Zealand, the South Sea Islands, and the Indian archipelago. Some are valuable timber trees. *P. cupressina*, one of the best timber trees of Java, found also throughout the neighboring islands and the South Sea Islands is a beautiful tree, 50 to 80 ft. high, with spreading pendulous branches; the wood is yellowish, and takes a very fine polish. *P. totarra*, the TOTARRA, or TOTARRA PINE, the most valuable timber tree of New Zealand, grows in the s. parts of New Zealand, and its trunk has been known to attain a diameter of 12 ft. Its wood is equal to the best Baltic pine in durability and for ship-building.

The wood of *P. elatus*, the Gagali of the Fijians, is peculiarly elastic.

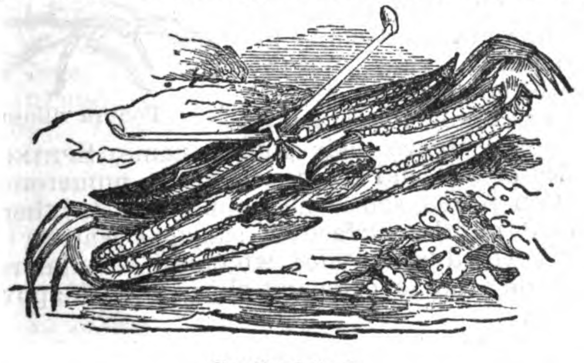
PODOCEPHALOUS, a. *pŏd'ō-sĕf'ă-lŭs* [Gr. *pous* or *poda*, a foot; *kephălē*, the head]: in *bot.*, having a head of flowers elevated on a long peduncle.

PODOGYNE, n. *pŏd'ō-jĭn*, or Podogynium, n. *pŏd'ō-jĭn'ĭ-ŭm* [Gr. *pous* or *poda*, a foot; *gŭnē*, a woman]: in *bot.*, a fleshy and solid projection which serves to support the ovary, with which it is continuous.

PODOLIA, *pō-dō'lĭ-a*, or Kaminetz, *kâ'mē-nĕts:* government of West or 'White' Russia, n. of Bessarabia, and bordering on the Austrian frontier; 16,170 sq. m. The surface is a table-land, strewn with hills, and containing many beautiful districts. Nearly three-fourths of P. is either arable or available for pasturage. Great quantities of corn and fruits, especially melons, are produced, and the fine climate is favorable to the growth of the vine and mulberry. Hemp, flax, and tobacco are cultivated with success, and the rearing of bees is an important industry. So rich and strong is the grass in the pastures or prairies, that the immense heads of cattle can hide themselves from view in it. The population is composed of various races, who live together unmixed. The Russniaks (formerly 'serfs') make up the majority, and number over a million; next come the Cossacks; and then the Jews, who almost all are traders. The aristocracy are Poles; the officials and soldiery, Russians. Pop. (1880) 2,169,500.

PODOLOGY, n. *pŏ-dŏl'o-jĭ* [prefix, *podo-;* Gr. *logos*, a word, a discourse]: treatise on or description of the foot.

PODOPHTHALMA, n. plu. *pŏd'ŏf-thăl'mă*, or Podophthalmata, or Podophthalmia [Gr. *pous* or *poda*, a foot; *ophthal'mos*, the eye]: division of malacostracous crustacea, part of the *Malacostraca* of Cuvier, including the orders *Decapoda* (Crabs, Lobsters, etc.) and *Stomapoda* (Shrimps, etc.). A distinguishing character, from which they derive their name, is their stalked and movable eyes. The stalks of the eyes are short in many, but very long in some, of which a beautiful example is presented by the Sentinel Crab of the Indian Ocean.—P. in *conch.* is a division of vostriferous gasteropods with eyes at the ends of cylindric peduncles.



Sentinel Crab.

PODOPHYLLIN, n. *pŏd'ō-fĭl'lĭn* [Gr. *pous* or *poda*, a foot; *phullon*, a leaf]: resin obtained by means of rectified spirit from the root of *Podophyllum peltatum*, or *May-apple*, a plant common throughout the United States. This resin, a pale greenish amorphous powder, is an active purgative, and seems to have the power of relieving the liver by exciting copious bilious discharges. As its activity seems to vary in different patients, it is better to begin with a small dose of half a grain, which may be combined with something to prevent its griping. POD'OPHYL'LOUS, a. *-fĭl'lŭs*, in *entom.*, having the feet or locomotive organs compressed into the form of leaves.

PODOPHYLLUM, *pŏd-ō-fĭl'lŭm:* genus of plants variously ranked by botanists in the nat. order *Ranunculaceæ*, or made the type of a small distinct order, *Podophylleæ* or *Podophyllaceæ*, differing from *Ranunculaceæ* chiefly in having a solitary carpel. The genus P. has 3 sepals, 6 to 9 petals, 12 to 18 stamens, a broad round stigma, seated almost on the top of the germen, and a many-seeded berry. *P. peltatum* is a perennial, with a solitary white flower in the axil of the two leaves; the fruit oval, an inch and a half long, smooth, yellowish, succulent, having a mawkish sweet and subacid taste. It is common in N. America, growing in moist woods and on the shady banks of streams, and is known as MAY-APPLE, because it flowers and ripens its fruit very early in summer; it is called also *Hog-apple* and *Wild Lemon*. The fruit may be eaten, but is not agreeable. All the other parts are actively cathartic: see PODOPHYLLIN.

PODOSPERM, n. *pŏd'ō-spėrm* [Gr. *pous* or *poda*, a foot; *sperma*, seed]: the filament or thread by which the ovule adheres to the placenta.

PODURA, *pō-dū'râ:* genus of small wingless insects of order *Thysanoura* (q.v.), having a linear or cylindrical body, a distinctly articulated thorax, rather long antennæ, and a long abdomen, terminating in a tail, which divides at its extremity into two branches. They bend the tail beneath the abdomen, and by suddenly extending it, make prodigious leaps. Hence their popular name, SPRING-TAIL. The species of this and allied genera are numerous; some are found on plants, some under stones and in other damp places, some on the surface of stagnant waters. Their bodies are covered with scales, which are very interesting, and are among the favorite test-objects for the powers of microscopes.

Podura villosa.

POE, *pō*, EDGAR ALLAN: perhaps the most original poetical genius yet produced by America: 1809, Feb. 19—1849, Oct. 7; b. Boston. His father, son of Gen. Poe, a distinguished officer in the revolutionary army, was educated for the law, but, falling in love with a beautiful English actress, he married her and went upon the stage. In a few years the youthful couple died at nearly the same time of consumption, leaving three children entirely unprovided for. Edgar, the second child, was adopted by John Allan, a rich childless merchant. In 1816 the boy went to England with Mr. and Mrs. Allan, and was sent to a school at Stoke Newington. In 1821 he returned to America, and attended an academy at Richmond, Va. In 1826 he entered the Univ. of Charlottesville, where he was a very successful student, but quitted it at the end of a year, deeply in debt, chiefly through his passion for gaming. For a year or two he remained quietly at home: the story of his having gone to assist the Greeks in their heroic efforts to throw off the yoke of their Turkish oppressors has no other foundation than the fact that his elder brother, who had gone to sea, fell into some trouble with the police at St. Petersburg, from which he was rescued by the U. S. minister. In 1829 Poe published a volume of poems, his first known essay in literature, under the title *Al Aaraaf, Tamerlane,* and other poems. He then expressed a wish to enter the army, and Mr. Allan exercised his influence to secure him a cadetship in the Milit. Acad. at West Point. Here he grossly neglected his duties, drank to excess, and was finally cashiered, 1831, Mar. 6. In the same year he published an enlarged collection of his poems, dedicated to the U. S. Corps of Cadets. Returning to Richmond, Poe was kindly received by Mr. Allan, who had become a widower and married a second wife. It is related that Poe's conduct to this lady was such that Mr. Allan had to eject him from his house, but there is some reason for deeming this a calumny. It is certain, however, that Mr. Allan had some strong reason for displeasure with Poe, and at his death 1834, he left him unmentioned in his will. Thus thrown upon his own resources, Poe turned to literature as a profession. In 1833 the publisher of a Baltimore magazine having offered prizes for the best prose story and the best poem, Poe competed, and won both prizes. This led to his friendship with John P. Kennedy, one of the prize committee, who procured him literary employment in connection with the *Southern Literary Messenger* at Richmond. While here, Poe married his cousin, Virginia Clemm, a beautiful and saintly creature, as destitute as himself, who died 1848. He was tenderly attached to her; and her years of illness, with their necessarily large drain of his scanty resources and their constant heavy burden on his heart, may have increased his natural morbidness. In 1837 he removed to New York, where he lived by contributing to the *New York Quarterly Review* and other periodicals, and where 1838 he published *The Narrative of Arthur Gordon Pym.* In 1839 he became editor of *The Gentleman's Magazine* at Philadelphia, and published a collection of his best stories with the title, *Tales of the Arabesque and Grotesque.* The next few years were spent in similar literary employment, chiefly at New York; the year 1845 being marked by the appearance of his famous poem, *The Raven* (for which, as is recorded, he received ten dollars); and 1848, by the publication of *Eureka, a Prose Poem,* in which he endeavored to elaborate a system of cosmogony. In 1849 he went to Richmond, and it is said became engaged to a lady of wealth. Oct. 4 he left Richmond by train, which he quitted at Baltimore. Some hours later he was discovered insensible in the streets, and taken to the hospital, where he died. The ordinary explanation of his condition at Baltimore is that he had met some old associates and drunk himself into helpless intoxication.

Few careers so dark and disastrous as that of Poe have place in all the sad records of genius. There is no doubt that Griswold in his life of Poe has been guilty of imputing to him a most exaggerated moral depravity; but the fact remains that the failure of his life was mainly occasioned by his habits of frantic dissipation. There was about Poe a strange fascination; his friends loved him—those best who best knew him, and knew him in his wretchedest aberrations. By his wife and her mother he was regarded through all with an obstinacy of tender affection, not for an instant to be shaken.

Whatever may be thought of his morals, of his genius there is little question. In his poetry, slight in substance as for the most part it is, small in quantity, and limited in range, there is that which ranks it above everything of this kind which his country has produced. Except for some traces of imitation in its earlier specimens, his verse is eminently a peculiar and individual product. In keen, clear, lyrical quality, the music of Poe at his best is scarcely surpassed by that of any other poet. Many of his short prose tales are wildly and weirdly impressive, though too frequently indulging by morbid preference in ghastly and painful effects. Over very much that he has written, alike in prose and in verse, there broods a significant shadow of misery and hopeless portentous gloom. A much more favorable view than usual of P.'s character is taken by Ingram in the memoir accompanying his ed. of Poe's works (4 vols., Edin. 1874); as also in his separate biography, *Edgar Allan Poe, his Life, Letters, and Opinions* (1880). Stoddard prefixed a memoir to a collection of his poems (1875).

POE, ORLANDO METCALFE: b. Navarre, Stark co., O., 1832, March 7: soldier. He graduated at West Point 1856, and was assigned to the engineer corps. He was attached to the survey of the lakes when the civil war began. As col. of the 2d Mich. volunteers he took part in the Virginia peninsular campaign; was commissioned brig.gen. of volunteers, 1862, and commanded a division 1863; became captain of engineers 1863, March; was with Sherman as chief of engineers in the march to the sea. He received successively the brevets of maj., lieut.col., col., brig.gen., and maj.gen. in the regular army, and 1891 holds the actual rank of col. of engineers.

PO'E BIRD: see HONEY-EATER.

PŒCILOPOD, n. *pĕ-sĭl'ō-pŏd* [Gr. *poikĭlos*, variegated; *pous* or *poda*, a foot]: a crustacean having various kinds of feet—applied to the king-crabs.

POEM, n. *pŏ'ĕm* [F. *poëme*—from L. *poēma;* Gr. *poiēma*, a composition in verse; *poiētēs*, a poet—from *poiĕō*, I make: comp. O.Scot. *maker*, a poet]: a composition in verse; the literary production of a poet (see POETRY). POESY, n. *pō'ĕ·sĭ*, poetry; metrical composition; the art of composing poems; a short conceit engraved on a ring—also spelled POSY, n. *pō'zĭ*. POET, n. *pō'ĕt*, the author of a poem; one who has the gift of writing poetry. POETESS, n. fem. *pō'ĕt-ĕs*, a women gifted with poetic genius. POET LAUREATE, n. *law'rē-ăt* [L. *laurĕātus*, crowned with laurel —from *laurĕa*, the laurel-tree]: in *Britain*, a salaried officer of the royal household, formerly required to write an ode on the king's birthday or other special occasion—the office is now conferred on an eminent poet (see LAUREATE). POET-MUSICIAN, an ancient bard and lyrist. POETASTER, n. *pō'ĕt-ăs'tėr* [It. *poetastro*, a poetaster]: a petty poet; a pitiful rhymer; a rhymster. POETIC, a. *pō-ĕt'ĭk*, or POET'ICAL, a. *-ĭ-kăl*, relating to poetry; expressed in poetry; marked by poetic language or imagery; figurative; imaginative. POET'ICALLY, ad. *-lĭ*. POETICS, n. plu. *pō-ĕt'ĭks*, the branch of criticism relating to poetry. POETIZE, v. *pō'ĕt-īz*, to make verse; to compose verse, as a poet. PO'ETIZING, imp. PO'ETIZED, pp. *-īzd*. POETRY, n. *pō'ĕt-rĭ*, embodiment of thoughts and emotions in a measured musical flow of words; striking thoughts, picturesque situations, and generally the full play of the imagination expressed in metrical compositions; prose composition expressed in the vivid language of the imagination and of the feelings; verse; rhyme; metrical compositions (see below). POETICAL JUSTICE, that ideal justice which poets and novelists mete out, making the good and innocently unfortunate, finally happy, and consigning the evil and the bad to condign punishments.

POEPHAGA, n. *pō-ĕf'ă-gă* [Gr. *poa*, grass, herbage; *phagein*, to eat]: in *zool.*, a group of the marsupials. POEPH'AGOUS, a. *-ă-gŭs*, eating grass.

POERIO, *po-ā'rē-o*, CARLO: Italian patriot: 1803, Dec. 10—1867, Apr.; son of Giuseppe P., Baron Belcastro, distinguished for love of liberty and for sufferings in her cause. The father, the Baron (1775–1843, b. Belcastro in Calabria), took part in the Neapolitan revolution of 1799, and suffered inprisonment; and for his part in the revolution of 1820, Ferdinand handed him over to the Austrians: from this exile he returned 1833 to Naples. He left two sons, the elder, Alessandro P. (1802–48), poet and patriot; and Carlo, the subject of our notice. Carlo was educated with great care, and trained to patriotism even from infancy. In 1828 he joined the liberals of Naples in the conspiracy of Avellino, for which he was imprisoned till 1838. He was concerned in the movement of 1847, and was sent back to prison, from which he was freed by the revolution in Sicily 1848. Into the work for producing the new constitution of 1848, Feb. 10, he threw himself with fervor; and was offered high official positions, which he declined.

1849, July 18, a conspiracy of the govt. for his ruin was set at work through a letter forged by the police, and purporting to come from Marquis Dragonnetti. This letter referred to an invasion planned by Garibaldi, instigated by Mazzini and by Lord Palmerston of England. When this letter was proved a forgery, and when other accusations fell to the ground, some revolutionists were influenced by the govt., under threat of death, to accuse P. of complicity in their plans; and after a mockery of trial he was condemned to 24 years in irons and a heavy fine. Thus this man of rare genius and exemplary life was cast into the hulks at Nisida, dressed as a felon, and dragging 15 lbs. of chains with assassins and thieves as companions. To humble him, it was proposed to him to try the effect of a petition for his liberty: he indignantly spurned the proposal. At last the protests of the English and French diplomatists and the letters of Gladstone, with the dread of a popular rising, brought Ferdinand II. to a resolve to rid himself of his political prisoners by sending them to America, 1859. P. and 66 others were put on board an Amer. vessel, whose capt., however, was induced to land them at Cork, whence they returned, by London, to Turin. In the following year P. was elected deputy by two colleges in Tuscany, and took his seat in parliament. When Garibaldi (q.v.) had driven out the Bourbon dynasty, P. returned to Naples. He declined the ministerial office offered him by Cavour, also the governorship of the southern provinces, but accepted the office of privy councilor.

PO'ETRY: according to the mere etymology of the word, a creation or production of any kind; but its classical equivalent, *poiēsis*, was applied by the Greeks almost exclusively to the artistic productions of the imagination, expressed in language. Poetry is thus not necessarily associated with verse or rhyme. It may find expression in prose, and has often done so in ancient and modern times. The Book of Ruth, e.g., is decidedly poetical in substance, yet in form it is strictly prosaic. Similar is the case with the Book of Job and the Prophetical Writings, in the English version. Jeremy Taylor, Hooker, Rousseau, Burke, Carlyle, Ruskin, Hawthorne, Emerson, and other modern prose writers, are often as richly or profoundly imaginative as poets by profession; but though the essence of poetry lies rather in the nature and adornment of the thoughts expressed than in the form of the composition, yet in general it has subjected itself to certain rules of *metre* or measure, often also to rules of *rhyme*. The reason of this practice lies in the fact that the music so produced by the mere words is found to heighten the emotions which their meaning is calculated to produce. Hence P. has become almost synonymous with metrical composition. Poetical compositions are of several classes, to which particular terms are applicable: the principal are the Epic (q.v.), the Lyric (q.v.), and the Drama (q.v.). To the Epic belongs the Ballad (q.v.): to the Lyric belongs the Song (q.v.) in all its varieties, serious and comic, the Hymn (q.v.), Ode (q.v.), Anthem (q.v.), Elegy (q.v.), Sonnet (q.v.), etc.: to the Drama belong Tragedy and Comedy. Besides these three principal kinds, are others of less consequence, e.g., Didactic Poetry (q.v.), Satirical Poetry (see SATIRE), in which, however, imaginative and ideal elements in general mingle so sparingly that strict critics exclude it from the circle of poetry. The theory of P., or Poetics (a branch of Æsthetics, q.v.), has been largely discussed in every cultivated language. Histories of the P. of the several nations are numerous: Rosenkranz and Zimmermann have produced universal histories of poetry.

POGGE, *pŏg* (***Aspidophorus Europæus***): fish of family *Sclerogenidæ*, or *Mailed Cheeks*, and nearly allied to the Bullhead (q.v.), but having the body cuirassed with large bony scales from the head to the tail fin, so that it is in form nearly a pyramid with eight faces. Its length seldom exceeds 6 inches. The head is thicker than the body, with points and depressions, the snout furnished with short recurved spines. The P. is known on the coasts of England as the *Armed Bullhead;* and on the coasts of Scotland by the names *Lyrie, Pluck,* and *Noble.* Notwithstanding its uncouth appearance, its flesh is good.

POGGENDORFF, *pŏg'gĕn-dorf*, JOHANN-CHRISTIAN: German physicist: 1796, Dec.29—1877, Jan.24; b. Hamburg. He studied pharmacy, chemistry, and physics; and was prof. of physics at Berlin from 1834 till his death. In 1838 he became a member of the Acad. of Sciences. His chief discoveries were in connection with electricity and galvanism, and these are reckoned of great value; he also invented a multiplying galvanometer for measuring the calorific action of currents. From 1824 onward he edited the *Annalen der Physik und Chimie,* contributing to this collection many important memoirs. He was one of the triad (Liebig and Wöhler being the other two) who prepared the *Dictionnaire de Chimie* (Brunswick 1837–51). The two works published by himself are the *Linien zu einer Geschichte der exacten Wissenschaften* (Berlin 1853), and *Biographisch-litterarisches Wörterbuch zur Geschichte der exacten Wissenschaften* (Leip. 1858–63, 2 vols.)—invaluable as a collection of facts concerning the lives and work of scientific men of all lands and times, a basis indeed for the history of physical science.—As a physicist, P. was lacking in mathematical ability, and was not distinguished for power in scientific generalization; but in experiment he was most able and thorough, and in invention of scientific apparatus, he had great ingenuity. His manners were unusually engaging.

POGON, n. *pō'gŏn* [Gr. *pōgōn,* the beard]: in *bot.,* the beard.

POGONIAS, *pō-gō'nĭ-ăs:* genus of acanthopterous fishes, of family *Sciænidæ*, having two dorsal fins, one of them deeply notched, and many small barbels under the mouth. The fishes of this genus are found on the coast of warm countries; and are remarkable for emitting sounds somewhat resembling those of a drum, which have obtained for them the name DRUMFISH. The production of the sounds appears to depend on action of the air-bladder. Sailors in vessels anchored near the shore, where species of this genus abound, are often prevented from sleeping, until they have become habituated to them. Some of the species attain large size, weighing 100 lbs. or more. The N. Amer. species is *P. chromis*, attaining 80 lbs., most abundant on the s. Atlantic and Gulf coast, though taken as far north as Cape Cod; it is at times very destructive to oyster beds. The young are different in color, being banded with brown and white, and until recently were mistaken for a distinct species, and named *P. fasciatus*. The Fresh-water Drum, Croaker, or Sheepshead, of the Great Lakes and w. rivers, is of another genus.

POH! int. *pō:* an exclamation of contempt.

POIGNANT, a. *poy'nănt* [F. *poignant*, poignant—from F. *poindre*, to pierce or sting: L. *pungĕrĕ*, to puncture, to pierce into]: very painful or acute, as pain or anguish; severe; piercing; keen; irritating; pungent; sharp; satirical. POIGN'ANTLY, ad. *-lĭ*. POIGNANCY, n. *poy'năn-sĭ*, the state of being poignant.

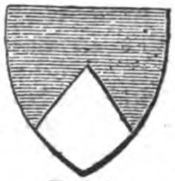
POINDEXTER, *poyn'dĕks-tėr*, GEORGE: 1779–1853, Sep. 5; b. Louisa co., Va.: statesman. He began the practice of law in Milton, Va.; removed to Miss. 1802; was atty.gen. of that territory 1803, and as such appeared for the prosecution when Aaron Burr was arrested in his first descent on New Orleans. He was a member of the territorial assembly 1805, delegate to congress 1807–13, U. S. judge of the Miss. district 1813. He was volunteer aid to Gen. Jackson in the battle of New Orleans. When Miss. became a state, he was its first representative in congress; there he was a zealous defender of Gen. Jackson. While in congress he revised the laws of Miss., and the code was pub. 1824. He returned to his law practice 1821, but 1830 was elected U. S. senator, and served till 1835. From being friends Pres. Jackson and P. became bitter enemies, and P. was even charged with complicity in an attack on the life of the pres. His public career ended 1835.

POINDING, n. *poyn'dĭng* or *pĭn'dĭng* [AS. *pyndan*, to shut up; *pund*, an inclosure: Ger. *pfänden*, to seize, to distrain]: in *Scotch law*, a process by which the property of the debtor's movables is transferred to the creditor: in *England*, the equivalent term is *distraining* or *distress*. POIND, v. *pĭnd*, to seize under legal process for debt; to distrain.

POINSETT, *poyn'sĕt*, Joel Roberts: 1779, March 2—1851, Dec. 12; b. Charleston, S. C.: statesman. He was liberally educated, studied medicine in Edinburgh and milit. science at Woolwich. Afterward he travelled through Europe, and on his return home was sent to S. America to observe the struggle of the Spanish colonies for independence. While P. was in Chili, the Spanish authorities in Peru, on a rumor of war between the United States and Spain, seized several American ships; P. headed a force of Chilians, attacked the Spaniards, and recaptured the ships. On his return home he was elected to the legislature of S. C.; served in congress 1821–25; and was U. S. minister to Mexico 1825–29. He was the leader of the Union party in S. C. in opposing nullification; afterward was sec. of war in Van Buren's administration—his last public office. P. earnestly opposed the Mexican war.

POINT, n. *poynt* [F. *point*, a point, a dot; L. *punctum*, a small hole, a puncture—from *pungĕrĕ*, to prick]: the sharp end of any instrument or body; anything resembling a point; the sting of an epigram; a small cape or headland; a turn of thought or expression that strikes with agreeable surprise; in *geom.*, that which has position but no magnitude; a moment; a small space; punctilio; nicety; place or time near; critical moment; eve or verge, as of death; position; state; dot, mark, or spot; direction of view, or part viewed; particular mark or aim; particular mode or parts; instance; example; single part; part of a whole; single position; the main question; lace wrought with the needle. as point-lace; a division of the mariner's compass; in *OE.*, note; time; a tagged lace, used in dress: V. to bring to a sharp end; to direct toward; to aim; to show distinctly; to show by way of example; to mark with characters in order to indicate certain distinctions; to distinguish by stops or points by way of punctuation; to fill the joints with mortar and smooth them with a trowel, as a stone wall; to direct attention to an object by the finger; to indicate, as dogs do to sportsmen. Point'ing, imp.: N. punctuation; the act or operation of filling the crevices of walls with mortar; the materials so employed. Point'ed, pp. aimed at any particular person or thing: Adj. having a sharp end; keen; smart, as a rebuke; in *arch.*, having arches sharply pointed. Point'edly, ad. *-lĭ*, in a marked or particular manner. Point'edness, n. *-nĕs*, the state of being pointed; sharpness; keenness. Point'er, n. *-ėr*, anything that points; hand of a timepiece: variety of sporting-dog employed to point out the game (see below). Point'less, a. *-lĕs*, without any sharpness at the termination, or keenness; aimless. Point'ers, n. plu. *-ėrz*, the two bright stars of the Great Bear which serve to point out the pole-star, a line drawn through them and prolonged nearly indicating it. Points, among *seamen*, flat pieces of plaited cordage tapering toward each end, used in reefing; on a *railway* (British usage), the switches or movable guiding-rails which admit a train on to a junction-line, to a siding, or from the one line of rail to the other; qualities, as good points. POINTSMAN, n. *poynts'măn*, on a *railway* (British), a workman who has charge of the switches or movable guiding-rails at or near a junction or station, to open or shut them on the approach of trains, as may be required. POINT-WORK, work done with a needle or small-pointed instrument. POINT OF SIGHT, in *perspective*, the point which is supposed to be exactly opposite the eye. POINTS OF THE COMPASS, the points of the circumference of the compass-card, which is divided into 32 equal parts or points—the circumference being 360 degrees, each point will be 11° 15′. CARDINAL POINTS, north, south, east, and west. POINT D'APPUI, *p'wâng-dăp'û-ē* [F. *point*, point; *de*, of; *appui*, prop or support]: in *mil.*, point of support; base of operations. POINT DEVICE, or DEVISE (often preceded by *at*), *poynt'dĕ-vīs'* or *p'wâng'dĕ-vēz'* [OF. *à point devis*, in the best way imaginable—from *deviser*, to distribute, regulate: L. *dividĕrĕ*, to divide]: particular sort of lace worked with a point or needle; condition of ideal excellence: term denoting anything uncommonly nice and exact. POINT OF INCIDENCE, the point on the surface of a body on which a ray of light falls. POINT OF REFLECTION, the point from which a ray is reflected. POINT-BLANK, a. in *mil.*, direct, —applied to the position of a gun or rifle aimed at an object without any elevation—the distance, which is more or less short, is called *point-blank range* (see GUNNERY): AD. directly. POINT OF A HORSE, in *mining*, the spot where the vein is divided into one or more branches. VANISHING-POINT, in *perspective*, the spot to which all parallel lines in the same plane tend in the representation. POINT OF CONTACT, in *geom.*, the point in which a straight line touches a circle or curve. POINTS OF A HORSE, those properties of shape, symmetry, etc., upon which much of the value of a horse depends. POINT OF VIEW, aspect; mode of looking at. TO POINT OUT, to show, as by the finger. TO POINT AT, to treat with scorn by directing attention to, as with the finger. AT POINT, or ON THE POINT, as near as can be; on the verge. IN GOOD POINT, in good condition. TO STAND ON POINTS, to hesitate as to the propriety or delicacy of an act. NINE POINTS OF THE LAW, the greater chance of success in a suit at law, as possession is *nine points of the law*. TO MAKE OR GAIN A POINT, to accomplish a certain part of that which was proposed; to make advance by a step. TO MARK OR SCORE A POINT, in *billiards* and in *common usage*, to accomplish or note down successful hits, etc. TO STRAIN OR STRETCH A POINT, to go beyond the proper limit; to exceed the bounds of strict propriety, or of duty—probably alluding to the points or tagged laces of olden costumes. VOWEL-POINTS, in certain eastern languages, as the Hebrew, a system of marks placed above or below the consonants to indicate vocal sounds and their character.—SYN. of 'point, n.': end; headland; promontory; part; moment; space; punctilio; nicety; degree; state; stop; spot; particular; aim; instance; condition.

POINT, *poynt*, in Heraldry: triangular figure issuing from the dexter and sinister base of the shield. A shield charged with a point is in heraldic drawing hardly distinguishable from one parted per chevron.



Point.

POINT-À-PITRE, *pwâng-tâ-pēt'r:* town of the French W. India island Guadeloupe, cap. of the division of Grande-Terre, on the Little Cul-de-Sac, 20 m. n.e. of Basse-Terre. The town is well built, and has a safe and spacious harbor. It is the centre of the commerce of the colony. Pop. 14,000.

POINT DE GALLE, *pwâng dė găl':* fortified town and seaport on the s.w. extremity of the island of Ceylon, on a low, rocky promontory of the same name; lat. 6° 1′ n., long. 80° 12′ e. The harbor, a small bay with entrance about a mile in width, is good, though there are numerous rocks, and a pilot is required to conduct vessels to the anchorage. Among principal edifices are the fort—a mile in circumference—the old Dutch church, a Rom. Cath. chapel, an excellent orphan asylum, barracks, and light-house 103 ft. above sea-level. This town has become important in recent years, especially since the organization of the Peninsular and Oriental Steam-navigation Company. Vessels plying between Suez and Bombay and Calcutta, Australia, China, Penang, and Singapore, call here to coal and to tranship passengers. It is the seat of govt. of the s. province of the colony of Ceylon. Gold and silver ornaments, work-boxes, etc., are made with great taste and nicety by the native workmen. Pop. 50,000.

POINTED ARCHITECTURE: see GOTHIC ARCHITECTURE.

POINTE LEVI: see LÉVIS.

POINT'ER: kind of dog nearly allied to the true hounds (q.v.), but not reckoned one of them; remarkable for its habit of *pointing* at game; its whole body, particularly its head, indicating the position of the game to the sportsman. A well-trained P. will remain long immovable in the attitude of pointing, not going forward to disturb the game which its exquisite power of scent has enabled it to discover. It is recorded of two British pointers that they stood an hour and a quarter without moving, while Gilpin painted them in the act. The P., when he scents game, stops so suddenly and completely, that even the fore-foot, already lifted, remains suspended in the air. Without the P., the sportsman would have comparatively little success in pursuit of grouse; but the dog performs for him the laborious task of 'beating' the wide moors. Well-trained pointers will scarcely point at anything except 'game'; but inferior dogs often point at almost any living creature the odor of which affects their nostrils. The habit of pointing once acquired appears to become hereditary, so that very young pointers often exhibit it in great perfection. It has been explained, with the crouching of the setter, as 'the natural start of surprise or interest which all dogs give when coming suddenly upon the scent or sight of their natural prey; modified by cultivation, and by transmission through many generations, each, by education, improving upon the capabilities of the former.'—See Bell's *British Quadrupeds.*

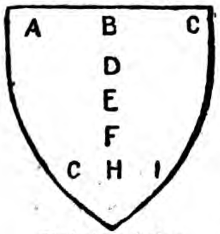
The breed of pointers now most common in Britain is believed to be crossed with the foxhound, to which there is considerable resemblance in colors as well as in form. The figure is very muscular, the hair short, the ears pendulous, the upper lips moderately large, the tail pointed and destitute of brush. Dogs of this breed are very active, and capable of long-sustained exertion. The original breed, the *Spanish P*, probably brought to Spain from the East, is of more bulky form, less active habit, and less capability of continued exertion. The P. is very forward and familiar in its manners, but is both affectionate and intelligent, though it is reputed inferior in these respects to many other kinds of dogs.

A Pointer standing at Game.

POINT PLEAS'ANT, Battle of: fierce contest of about 1,100 militia of s.w. Va., under Gen. Andrew Lewis, with a large force of Shawnee, Delaware, and Mingo Indians, under the Shawnee chief, Cornstalk, 1774, Oct. 10, at a point near the junction of the Great Kanawha with the Ohio, now Point Pleasant, W. Va. The Scotch earl of Dunmore, acting as gov. of Va., had called out the militia of the s.w. part of Va., for defense of the frontier toward the Ohio, where both backwoodsmen and Indians were drifting into bloody war. Under such leaders as Isaac and Evan Shelby, Daniel Morgan, George Matthews, William Campbell, Andrew Moore, John Robertson, Valentine Sevier, Thomas Fleming, and Charles Lewis, with Andrew Lewis in command, a force was gathered at Camp Union, now Lewisburg, W. Va., and proceeded over the mountains to the Kanawha, whence, with a reinforcement, they descended that river in canoes, and encamped, Oct. 6, on the point at its mouth near the Ohio. Dunmore had gone to the Ohio with about 1,000 men, at Wheeling (W. Va.), ostensibly for co-operation with the troops from s.w. Va.

under Gen. Lewis, but actually more disposed to let those patriots and the savages slaughter each other, and clear the ground where he wished at once to secure wild lands and assert British against colonial authority. The Revolution was already practically begun, an act of the Brit. parliament had carried the bounds of Canada to the Ohio and Mississippi rivers; and Dunmore was particularly disposed to thwart the colony, and at the same time get access to the rich lands beyond the frontier. No message from him reached Gen. Lewis; and appearances tend to convict the earl of securing by his agents the concentration of the Indians against Lewis, while he delayed, and finally sent orders for Lewis to meet him 80 m. beyond the Ohio, on the banks of the Scioto. The victory, after one of the most hotly contested battles ever fought with Indians, was a disappointment to Dunmore and a triumph to the provincial army; and this darkly planned and desperately fought battle has been noted in that region as the first of the Revolution. The battle raged nearly all day, and would have ended as that of Braddock did, had not the backwoods experience and the skill and courage of the whites fully matched that of the savages. Cols. Charles Lewis, Fleming, and Field successively fell at the head of the main body, and nearly a fifth of the little army were either killed or wounded before the success of three companies, in an attack on Cornstalk's rear, decided the fortunes of the day, with greater loss to the savages than to the whites.

POINTS OF THE ESCUTCHEON, in Heraldry: divisions of the shield. In order to facilitate the description of a coat-of-arms, it is the practice to suppose the shield to be divided into nine points, which are known by the following names: A, the dexter chief point; B, the middle chief; C, the sinister chief; D, the collar or honor point; E, the fess point; F, the nombril, or navel point; G, the dexter base point; H, the middle base point; and I, the sinister base point. The dexter and sinister sides of the shield are so called, not in relation to the eye of the spectator, but from the right and left sides of the supposed bearer of the shield.



Points of the Escutcheon.

POISE, n. *poyz* [OF. *poiser; peser*, to weigh—from *poids*, weight: L. *pensārĕ*, *pendĕrĕ*, to weigh, weigh out]: a regulating power or weight; the weight used with steelyards; gravity; balance; that which balances: V, to make of equal weight; to balance; to load with a weight for balancing; to examine or ascertain, as by a balance. POIS′ING, imp. POISED, pp. *poyzd*.

POISON, n. *poy'zn* [F. *poison*, poison: L. *potĭo* or *potĭōnem*, a drink—from *poto*, I drink: Sp. *ponzoña*, a venom, poison]: any substance which, when swallowed, inhaled, or rubbed over the skin, injures the health or destroys life (see POISONS): venom; anything which taints moral purity: V. to injure the health, or cause death, by administering poison; to infect with poison; to taint; to mar; to corrupt, as one's morals. POI'SONING, imp.: N. the act of giving poison to, or of injuring or killing by poison (see POISONING, SECRET). POISONED, pp. *poy'znd*: ADJ. infected or destroyed by poison. POI'SONER, n. *-zn-ėr*, one who poisons or corrupts. POI'SONOUS, a. *-zn-ŭs*, containing poison; injurious to health; deadly; corrupting morals or purity. POI'SONOUSLY, ad. *-lĭ*. POI'SONOUSNESS, n. *-nĕs*, the quality of being fatal to life or injurious to health.—SYN. of 'poison, n.': venom; pest; bane; malignity; ruin.

POI'SONING, SECRET: mode of taking away life by poisons so slow in operation that the gradual sinking of the victims under their influence closely resembled the effects of disease or the ordinary decay of nature. It has been practiced in all ages, and several undoubted and numerous supposed instances of it are mentioned by Greek and Roman writers. In the 17th c. this atrocious practice became frequent, and rapidly increasing, spread over w. Europe like an epidemic, and became gradually a regular branch of education among those who professed a knowledge of chemistry, magic, or astrology. These persons regarded the knowledge of the mode of preparing secret poisons as of the highest importance, and many of them realized large sums by the sale of their preparations, and occasionally of the secret of their composition. Chiefly in Italy and France this art was practiced and perfected; but it seems to have had some prevalence in England also, for we find that, in the 21st year of Henry VIII.'s reign, an act was passed declaring the employment of secret poisons to be high treason, and sentencing those found guilty of it to be boiled to death. The only undoubted instance of this crime prominent in English history is the murder of Sir Thomas Overbury (q.v.) by Viscount Rochester (favorite minion of James VI.) and his wife, the divorced Countess of Essex; though many suppose, and with some probability, that James VI. himself was a victim to similar nefarious practices on the part of Villiers, Duke of Buckingham; and undoubtedly such was the popular impression at the time, for Dr. Lamb, a conjuror and quack, who was believed to have furnished Buckingham with the poisons, was seized by the angry populace in Wood Street, Cheapside, London, and beaten and stoned to death. In Italy this mode of poisoning seems from the writings of various authors to have been deemed justifiable for riddance of a rival or enemy; and from the time of the Lombard invasion to the 17th c., Italian history teems with instances showing that poison was both the favorite weapon of the oppressor, and the protection or revenge of the oppressed. The Borgias are generally singled out as poisoners, and held up to the horror and detestation of mankind; though as far as this method of destroying their adversaries was concerned, they merely employed it a little more frequently than their neighbors. The popular feeling on this subject is instanced in the case mentioned in the memoirs of Henry II., fifth Duke of Guise, of a soldier who was requested to rid that duke of one of his opponents in Naples, Gennaro Annese. *Assassination* was the mode proposed to the soldier, but he shrank with horror from the suggestion, while stating that he was quite willing to *poison* Annese. It was shortly after the date of this story (1648) that secret poisoning became so frequent; and the Rom. Cath. clergy, despite the rules of the confessional, felt themselves bound to acquaint Pope Alexander VII. with the extent of the practice. On investigation, it was found that young widows were extraordinarily abundant in Rome, and that most of the unhappy marriages were speedily dissolved by the sickness and death of the husband; and further inquiries resulted in the discovery of a secret society of young matrons, which met at the house of an old hag, Hieronyma Spara, a reputed witch and fortune-teller, who supplied those of them who wished to resent the infidelities of their husbands, with a slow poison, clear, tasteless, and limpid, and of strength sufficient to destroy life in the course of a day, week, month, or a number of months, as the purchaser preferred. The ladies of Rome had been long acquainted with the 'wonderful elixir' compounded by La Spara; but they kept the secret so well, and made such effectual use of their knowledge, that it was only after several years, during which a large number of unsuspected victims had perished, and even then only through a cunning artifice of the police, that the proceedings were brought to light. La Spara and 13 of her companions were hanged, a large number of the culprits were whipped half-naked through the streets of Rome, and some of the highest rank suffered fines and banishment. About half a century afterward, the discovery was made of a similar organization at Naples, headed by an old woman of 70 years, named Toffania, who manufactured a poison similar to that of La Spara, and sold it extensively in Naples under the name of *acquetta*, and even sent it to all parts of Italy, under the name of 'Manna of St. Nicola of Bari,' giving it the same name as the renowned miraculous oil of St. Nicola, to elude discovery. This poison, now best known as the 'Acqua Tofana' or 'Acqua di Perugia,' is said by Hahnemann to have been compounded of arsenical neutral salts; while Gareli states that it was crystallized arsenic dissolved in a large quantity of water; but both agree that it produced its effect almost imperceptibly, by gradually weakening the appetite and respiratory organs. After having directly or indirectly caused the death of more than 600 persons, Toffania was at length seized, tried, and strangled 1719. From this time the mania for secret poisoning gradually died away in Italy.

About the middle of the 17th c. this horrible practice seems to have become prevalent in France, and under similar circumstances, the agents being married women, and their husbands the victims; and as in Italy, the extent to which the practice was carried was made known first by the clergy. The government, acting on the information thus obtained, seized and imprisoned in the Bastille two Italians, Exili and Glaser, suspected of having been the manufacturers and vendors of the poisons. Glaser died in prison; but Exili, becoming acquainted with another prisoner named St. Croix, communicated to him his secret, which the latter made considerable use of after his release, compounding in particular the poison known as 'succession powder,' which subsequently became so celebrated. It was the same St. Croix who was prominent in the tragical history of the Marquise de Brinvilliers (q.v.). Penautier, treasurer of the province of Languedoc, and the Cardinal de Bonzy were pupils of St. Croix, and managed, the one to pave the way for his own advancement, and the other to rid himself of his numerous creditors, by poison; but the great influence of these men, and the want of direct evidence, barred all proceedings against them. Secret poisoning became fashionable; the passions of jealousy, revenge, avarice, and even petty spite, all were satisfied in the same way, and as a natural consequence other offenses decreased in proportion. The prisons teemed with suspected criminals, and the 'Chambre Ardente' was instituted for the special purpose of trying these offenders. In Paris this trade was in the hands chiefly of two women, Lavoisin and Lavigoreux, who combined with the ostensible occupation of midwife that of fortune-teller, and foretold to wives the decease of their husbands, to needy heirs that of their rich relatives, taking care at the same time to be instrumental in fulfilling their own predictions. Their houses were frequented by numbers of all classes, both from Paris and the provinces, among whom were the celebrated Marshal de Luxembourg (q.v.), the Duchess de Bouillon, and the Countess de Soissons; the two former of these, however, went merely from curiosity. Lavoisin and her confederate were at last discovered, tried, condemned, and burned alive in the Place de Grève 1680, Feb. 22; and 30 to 50 of their accomplices were hanged in various cities of France. So common had this atrocious practice been, that Madame de Sévigné, in one of her letters, expresses a fear lest the term 'Frenchman' and 'poisoner' should become synonymous. For two years after the burning of the two Parisian prisoners, the crime continued to be largely committed, being fostered by the impunity with which offenders of high rank were allowed to escape; and it was not till more than 100 persons had died at the stake or on the gallows, that the government succeeded in suppressing it. The mania for secret poisoning has not since been revived, though isolated instances have occasionally been discovered. See Beckmann's ***History of Inventions***, the historians of the period of James I.'s reign, the French ***Causes Celebres***, and Mackay's ***Povular Delusions***.

POI'SONS: commonly defined as substances, which, administered in small quantity, are capable of acting deleteriously on the body; but this definition is too restricted, for it excludes numerous substances which are poisonous only when administered in large doses, e.g., nitre, and the salts of lead, antimony, etc. A person may be poisoned as effectually by an ounce of nitre as by five grains of arsenic. The suggested definition: 'A poison is a substance which, when taken internally, is capable of destroying life without acting medicinally on the system,' is not perfect, for it does not include P. that act by absorption when applied to a thin and delicate membrane, e.g., glanders, syphilitic poison, etc., or those which must be introduced directly into the circulation by a puncture or abraded surface, as the venom of insects, scorpions, and serpents, the woorali poison (see CURARE), and that of animals suffering from hydrophobia. Omitting, for the present, the cases not included in the above proposed definition, we may consider P. as divisible into three classes, according to their mode of action on the system—*Irritants, Narcotics*, and *Narcotico-Irritants*.

The *Irritants* in ordinary doses speedily occasion intense vomiting and purging, and severe abdominal pain. They act chiefly on the stomach and intestines, which they irritate, inflame, and frequently corrode, and may thus occasion ulceration, perforation, or gangrene. Among those which possess corrosive properties are the strong mineral acids, caustic alkalies, corrosive sublimate, etc.; while among the pure irritants which exert no destructive chemical action on the tissues with which they come in contact, are arsenic, cantharides, carbonate of lead, etc. The *Narcotics* act specially on the brain and spinal cord. Among their most common symptoms are giddiness, headache, obscurity of sight or double vision, stupor, loss of power of the voluntary muscles, convulsions, and, finally, complete coma. Moreover, many of the narcotic P. present special symptoms, in some cases strongly resembling pure special diseases. Thus there is almost exact similarity in the symptoms of poisoning by opium and of apoplexy, while prussic acid and some other P. give rise to symptoms closely resembling those of epilepsy. These P. have no acrid, burning taste, nor do they usually give rise to vomiting or diarrhea; and, except a slight fulness of the cerebral vessels, they leave no well-marked post-mortem appearance. They are few in number, and none of them belong to the mineral kingdom. The *Narcotico-Irritants* have, as their name implies, a mixed action. 'At variable periods, after they have been swallowed, they give rise to vomiting and purging, like irritants, and sooner or later produce stupor, coma, paralysis, and convulsions, owing to their effect on the brain and spinal marrow. They possess the property, like irritants, of irritating and inflaming the alimentary canal. As familiar examples, we may point to nux vomica, monkshood, and poisonous mushrooms. . . . The fact of the symptoms occurring after a meal at which some suspicious vegetables may have been eaten, coupled with the

nature of the symptoms themselves, will commonly indicate the class to which the poison belongs. Some narcotico-irritants have a hot, acrid taste, such as the aconite or monkshood; others an intensely bitter taste, as nux vomica and its alkaloid strychnia.'

For a notice of the most important rules for the physician in all cases of suspected poisoning, see the standard works on poisoning or on medical jurisprudence.

Under *Irritant Poisons* may be included, (1) Mineral Acids, as sulphuric, nitric, and hydrochloric acids; vegetable acids, and other salts, as oxalic acid, binoxalate of potash, and tartaric acid (in doses of half an ounce or more); the alkalies, as pearl-ash (carbonate of potash), soap lees (carbonate of soda), ammonia and its sesquicarbonate; and metallic compounds, as white arsenic (arsenious acid); yellow arsenic (orpiment), corrosive sublimate, bicyanide of mercury, pernitrate and other salts of this metal, acetate of lead (sugar of lead) in doses of an ounce and upward, carbonate of lead (white lead), sulphate of copper (blue vitriol), subacetate of copper (verdigris), arsenite of copper (commonly known as *Scheele's green* or *emerald green*, and much used under the name *extract of spinach* for coloring confectionery), tartarized antimony, chloride of antimony (butter of antimony), chloride of zinc (Sir W. Burnett's Fluid), nitrate of silver (lunar caustic), sulphate of iron (copperas or green vitriol), and bichromate of potash. (2) Vegetable Substances, as colocynth and gamboge in large doses, savin, croton oil, leaves and flowers of the common elder (*Sambucus nigra*), etc. (3) Animal Substances, such as cantharides, to which must be added the occasional cases in which sausages, and certain fish and mollusks, usually quite innocuous, act as irritant poisons.

The *Narcotic Poisons* include opium, hydrocyanic (or prussic) acid, oil of bitter almonds, cyanide of potassium, henbane, especially the seeds, alcohol, ether, chloral, and chloroform; while *Narcotico-Irritant Poisons* are nux vomica, meadow saffron (*Colchicum*), white hellebore, foxglove, common hemlock, water hemlock (*Cicuta virosa*), hemlock water-dropwort (*Œnanthe crocata*), fool's parsley, thorn-apple, monkshood or wolf's bane, deadly nightshade, tobacco, Indian tobacco (*Lobelia inflata*), the bark and seeds of the common laburnum, the berries and leaves of the yew-tree, and certain kinds of fungi.

The cases in which there are antidotes qualified to neutralize chemically the action of the poison are few in number. For the *mineral acids* should be administered chalk or magnesia in water, with the view of neutralizing them, after which milk should be given freely. The *alkalies and their carbonates* must be neutralized by vinegar and water, or lemon-juice mixed with water, after which milk should be given. For *oxalic acid* the antidote is chalk or magnesia in water, by which an insoluble oxalate of lime or magnesia is formed. For *arsenic*, the hydrated peroxide of iron has been regarded as an antidote, but its efficacy is doubtful. Vomiting should be excited by administration of a scruple of sulphate of zinc in warm water, and after the stomach has been well cleared out, demulcent fluids, such as flour and water or milk should be given. *Corrosive sublimate* combines with albumen (white of egg), and forms an insoluble inert mass; *nitrate of silver* is neutralized by chloride of sodium (commonsalt) dissolved in water; *tartarized antimony* is to a great degree rendered inert by a decoction of bark or gall-nuts; and *acetate of lead* is rendered inert by sulphate of magnesia, which converts it into an insoluble sulphate of lead. In all cases of suspected poisoning, in which the nature of the poison is not known, the safest course is at once to produce vomiting by sulphate of zinc, or in its absence by a dessert-spoonful of flour of mustard suspended in tepid water, and to continue the vomiting till all the contents of the stomach are discharged, after which milk should be given freely.

Most of the known gases—except hydrogen, nitrogen, and oxygen—have a poisonous action when inhaled into the lungs; but in these cases death, if it ensues, is popularly said to be due to *suffocation*, though strictly speaking a person who dies from the effect of carbonic acid, or sulphuretted hydrogen, or of any other noxious gas, is in reality just as much poisoned as if he had taken oxalic acid or arsenic. *Carbonic Acid* (q.v.), though seldom employed as an instrument of murder, is often a cause of accidental death, and in France of self-destruction. It is established by numerous experiments that air containing more than *one-tenth* of its volume of carbonic acid, will, if inhaled, destroy life in man and the higher animals. In its pure state it cannot be inhaled, because its contact with the larynx causes spasmodic contraction of the glottis; but when diluted with two or more volumes of air, it can be breathed, and produces symptoms of vertigo and somnolency; and so great a loss of muscular power, that the individual, if in an erect or sitting position, falls as if struck to the ground. The respiration, at first difficult and stertorous, becomes suspended. The action of the heart is at first violent, but soon ceases, sensibility is lost, and the person falls into a comatose or death-like state. Those who have been resuscitated usually feel pain in the head and general soreness of the body for some days, and in a few severe cases paralysis of the muscles of the face has remained. As deaths frequently occur from coal or charcoal being employed as fuel in ill-ventilated rooms (often without any kind of chimney), it is expedient that every one should know what is to be done in such an emergency. The patient must be at once removed from the poisonous atmosphere, after which artificial respiration should be had recourse to. If the skin is warm, cold water may be poured on the head and spine; if the surface be cold, a warm bath should be employed. When respiration is re-established, venesection will often relieve the congestion of the vessels of the brain. Inhalation of oxygen gas is said to have been of service in these cases. *Carbonic oxide*, which exists largely in coal gas, is at least as active a poison as carbonic acid, and is doubtless the principal cause of the effects produced by the inhalation of diluted gas. Both carbonic acid and carbonic oxide act as powerful narcotic poisons. *Sulphuretted hydrogen*, abundant in foul drains, sewers, cesspools, etc., is a gaseous poison whose effects are often noticed. Nothing certain is known of the smallest proportion of this gas required to destroy human life; but air containing only one eight-hundredth of its volume of this gas will destroy a dog; and when the gas exists in the proportion of one two-hundred-and-fiftieth, it will kill a horse. A medical authority states that the men engaged in the construction of the Thames Tunnel in London suffered severely from this gas, derived probably from the action of the water on the iron pyrites in the clay, and which issued in sudden bursts from the walls. By respiring this atmosphere, the strongest and most robust men were in a few months reduced to extreme exhaustion, and several died. The first symptoms were giddiness, nausea, and general debility; the men became emaciated, and fell into low fever accompanied by delirium. In this case the dilution was extreme; when the gas is breathed in a more concentrated form, the person speedily falls, apparently lifeless. It appears to act as a narcotic poison, when concentrated; but like a narcotico-irritant, when much diluted with air.

The action of the vapor of *hydrosulphate of ammonia*, also commonly present in cesspools, etc., is probably much the same as that of sulphuretted hydrogen. The experiments of Dr. Herbert Barker show, however, that these matters do not produce similar symptoms on dogs (*On Malaria and Miasmata*, p. 212).

Many of the gases, found only as products of the laboratory, are in the highest degree poisonous, as arseniuretted hydrogen, cacodyl, etc.; but few persons run the risk of inspiring them.

We turn to consider the P. not included in the definition which, in lack of a better, we have adopted. The P. that may affect the body by direct introduction into the circulation, through a puncture or abrasion, may be derived from the mineral, the vegetable, or the animal kingdom; but, with a few exceptions (e.g., Woorali or Curare [q.v.] Poison), the P. derived from the mineral and vegetable kingdoms would act as efficiently if introduced into the stomach as if injected into the circulating blood; while the animal P. act only by direct introduction into the blood, and are inert when introduced into the stomach. Poisoned wounds derived from dissection of recently dead bodies, known as *dissecting wounds*, are occasionally attended with most alarming symptoms, and are liable to terminate fatally. In the case of Dr. Pett, quoted by Travers in his work *On Constitutional Irritation*, the symptoms on the third day were 'a haggard and depressed countenance; violent shiverings, followed by some degree of heat; extreme alteration in appearance; countenance suffused with redness; the eyes hollow and ferrety; some difficulty of breathing, which was sudden, irregular, and amounting almost to sighing; excessive torpor, and the whole aspect resembling one who had taken an overdose of opium: on the following day there was extreme exhaustion and feebleness, and death ensued on the fifth day.' For the symptoms produced by bites and stings of insects, arachnidans, and serpents, and for the treatment, see VENOMOUS BITES AND STINGS. For poisoned wounds from diseased animals, see GLANDERS: HYDROPHOBIA.

The sale of P. is regulated by law in most of the states of the Union, the law of N. Y. requiring apothecaries to keep a register of sales of certain P.; and in the case of other poisonous substances, to attach to each package containing them a label bearing in plain letters the word 'poison.' In Mass. the law concerning the sale of P. covers more than thirty substances: whoever sells any of these without a physician's prescription, must affix to the bottle, box, or wrapper a lable of red paper having in large letters the word 'poison;' also giving the antidote, if there be one.—Many of the states have laws inflicting severe penalties on poisoners. An indictment for murder by poisoning need not specially allege intent to kill. To constitute the crime of poisoning, it is not necessary that there should be a delivery of the poison by hand.

POISON UDER—POISON IVY—POISON OAKS—POISON SUMACH—POISON VINE: see SUMACH.

POISSON, *pwâ-sŏng'*, SIMEON-DENIS: French geometer: 1781, June 21—1840; b. Pithiviers, dept. of Loiret. He studied in the École Polytechnique; and his mathematical talent early attracted the notice of Lagrange and Laplace. In 1802 he became a prof. in the Polytechnique; 1808, a member of the Bureau des Longitudes; 1809, prof. of mechanics to the Faculty of Sciences; member of the Institute 1812, etc.; and in 1837 he was made a peer of France. He was characterized by simplicity, modesty, and affectionateness. P.'s whole life was given to scientific research; and among the results are 300 Memoirs, in the publications of the École Polytechnique, of the Acad. of Sciences, and in other scientific journals. A complete summary by P. himself is published by Arago (*Notices Biographiques*, II.). Of his separate treatises the following are chief: *Traité de Mécanique* (2 vols. 1833); *Nouvelle Théorie de l'Action Capillaire; Théorie Mathématique de la Chaleur* (1835); *Mémoire sur le Mouvement des Projectiles dans l'Air, en ayant égard à la Rotation de la Terre* (1839); and the famous work, *Sur l'Invariabilité des Moyens Mouvements des grands Axes Planétaires*. P. is considered one of the chief founders of the science of mathematical physics, which was brought by him to great perfection, especially as concerns statical electricity and magnetism.

POITIERS, *poy-tērz'*, F. *pwâ-te-ā'*, earlier *Poictiers* (corruption of the Latin *Pictavium*, so called by the Gallic tribe *Pictavi*, who inhabited the district in Cæsar's time): one of the oldest towns in France; capital of the dept. of Vienne, and formerly of the province of Poitou. Pop. (1881) 35,710. It occupies the summit and slopes of a little eminence, round the base of which flow the Clain and the Boivre, is encircled by walls and towers, and has a very dull appearance. It is connected by railway with Tours, 63 m., and with Bordeaux. Before the Revolution, P. had an immense number of churches, chapels, monasteries, and nunneries; even yet these are numerous. The principal are the church of St. Jean (now a *Musée*), one of the oldest Christian monuments in France; and the cathedral of St. Pierre, one of the finest in France, belonging (in part) to the 12th c., and in which, or in the older edifice that occupied its site, 23 councils were held—the first in the 4th, the last in the 15th c. It contains the ashes of Richard Cœur-de-Lion. Its university, founded by Charles VII. 1431, was abolished after 1789, but its place has been supplied by a university-academy with two faculties. P. possesses a public library of 25,000 vols. and MSS.; a museum; and several learned societies, including one for studying the antiquities of w. France. In and around P. are numerous Celtic and Roman remains. In 1882 the remains of a Gallo-Roman town were discovered here, with temple, baths, and streets, spread over about 14 acres. In the vicinity, Alaric II., the Visigoth, was defeated and slain by Clovis 507. Somewhere between P. and Tours a great battle took place 732, between the Franks under Charles Martel (q.v.) and the Moors under Abd-ur-Rahmân. The Moors were routed with enormous slaughter—375,000 of them (according to one old exaggerating chronicler) being left dead on the field; later still (1356), at Maupertuis-le-Beauvois, about 5 m. n. of P., Edward the Black Prince, with 12,000 or 14,000 Englishmen and Gascons, defeated 60,000 of the troops of King Jean of France, and took the monarch himself and one of his sons prisoners.

POITOU, *pwâ-tô':* former province of w. France, now mainly comprised in the depts. Deux Sèvres, Vendée, and Vienne. It was divided into Upper and Lower P., and had for its cap. Poitiers (q.v.). P. became a possession of the English crown when Eleanor, Countess of P. and Duchess of Aquitaine, after her divorce from Louis VII. of France 1151, Sep., married, on Whitsunday following, Henry of Anjou, afterward Henry I. of England. Philippe-Auguste reconquered the province 1204, and 1295 it was formally ceded to France. By the peace of Bretigny 1360 it again reverted to England, but was soon retaken by Charles V., who gave it to his brother, the Duke of Berri. It was subsequently incorporated with the French crown.

POITRINAL, *poy'trĭn-al*, or **PECTORAL**, *pĕk'tō-ral*, in Ancient Armor: the horse's breastplate, of metal plates riveted together, covering the breast and shoulders.

POKANO'KETS: family of N. American Indians, known also as Wampanoags; one of the five families of the Algonkin tribe that occupied Mass. at the time of the English settlement. Their chief, Massasoit (q.v.), signed a treaty with the settlers; and under his son, Metacomet, the P. led the uprising that began King Philip's Indian war. Nearly all the survivors of that war were sold as slaves in the W. Indies or otherwise scattered.

POKE, v. *pōk* [Gael. *puc*, to push: Dut. *poken*, to poke; *poke*, a dagger: Icel. *piaka*, to thrust, to pick: Norw. *paak;* Sw. *pak*, a stick: prov. F. *poque*, a blow with a ball: Ger. *pochen*, to knock]: to thrust or push against with anything pointed, as with a stick, or as a bull with its horns; to search or feel for, as in the dark; to grope; to search; to feel. Pok'ing, imp. busying one's self without a definite object, followed by *about*. Poked, pp. *pōkt*. Poker, n. *pōk'ėr*, one who pokes; an iron bar used to stir fires; a bar of iron for driving hoops on masts. Poker-pictures, imitations of pictures executed by singeing the surface of white wood with a heated poker, such as that used in Italian irons. Poking-stick, a laundress's wooden stirrer. To poke fun, to make fun. To poke at, to thrust the horns at. Poke-weed, N. Amer. herbaceous plant, producing numerous bunches of black juicy berries; the *Phytolac'ca decan'dra* (see Phytolacca).

POKE, n. *pōk* [Ir. *poc;* Gael. *poca*, a bag: Dut. *poke:* Icel. *poki*]: a sack; a bag; a pouch. To buy a pig in a poke—that is, a *pocket* or *bag*—to buy a thing without seeing it, or without knowing its qualities and real value. Poky, or Pokey, a. *pōk'ĭ*, narrow; close; confined.

POKER: game of cards. It is played with a full pack of 52 cards. *Straight Poker* (the original game) is almost pure 'bluff'; so the player has nothing to guide him in judging what the other players hold. Each player puts up a certain amount before the deal. There is no betting. In *Draw Poker* a card is dealt to each player, face up, and the one receiving the lowest card deals. The number of players can be from two to seven, but five is the best number. The terms used are the following: *Age*, or *Blind*, or *Eldest hand*, is the player at the left of the dealer. *Bluff* is betting high on a weak hand, endeavoring to frighten others out of the game. *Call* is when the person whose turn it is to bet last deposits the full amount already bet by the others, and says 'I call,' when all hands must be shown, and the highest wins. *Draw* is to take one or more new cards in place of those discarded, but the privilege is but for once, when the players first look at their hands, and it begins with the *Age*. *To see* is to equal a bet. *Going better* is when one player bets higher than another. *Coming in*, any one entering the game by putting up double the amount of the *Ante* or the *Straddle*. *Going out*, one who gives up his hand and his interest in the amount bet. *Straddle*, double the amount of the ante.

The value of the cards is the same as in whist, that is, ace, king, queen, jack, ten, etc. The value of the hand ranks as follows, beginning at the lowest. *One pair*, a hand that holds a pair, e.g., of queens or fours, etc. *Two pair hand*, a hand with two pairs. If two players hold the same pairs, the one with the highest odd card wins. *Threes*, when a person holds three of the same value. The highest *Three* wins. *Straight*, when the five cards rank in regular order, without regard to suit, e.g., eight, nine, ten, jack, queen. The ace in this hand can count as one. *Flush*, five cards of the same suit, as five diamonds, or five spades, without regard to the value of the cards. The flush containing the highest card wins. *Full hand*, one containing three of a kind and a pair. The hand holding the highest three of a kind wins. *Fours*, a hand which holds four of the same denomination, e.g., four kings, or four twos. *Straight flush* (the highest) is a hand where all the cards are of the same suit and in any regular order, e.g., king, queen, jack, ten, nine. It is better to have a limit decided upon, although it is not obligatory. The game is unfortunate in its association with gambling. There are other vareties of P. Draw P. is regarded by many as especially objectionable because betting is an essential feature, even though no money be at stake, i.e., as played only for the pleasure of winning so many 'chips,' which are disks that represent money in real betting. The same may be said substantially of the 'jack-pot' games of P., in which the stake is made before playing.

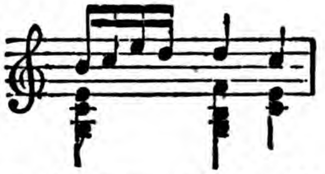
POKHURN, *pŏk-hėrn':* town of India, in the Rajpoot state of Jodhpoor, 340 m. s.w. of Delhi; close to a deserted town of the same name, whose site is marked by a very conspicuous temple on a height. P. has considerable trade. Pop. about 15,000.

POLA, *pō'lâ:* most important naval station of Austria, and one of the most beautiful havens in Europe. The town belongs to the Markgrafate of Istria, and occupies an eminence overlooking the Adriatic Sea, 55 m. s. of Trieste. The bay is thoroughly sheltered, and spacious enough to accommodate the largest fleet. The town is surrounded by bastioned walls, is protected by numerous batteries, and is overlooked by the citadel by which it and the bay are commanded. Pop. (1880) 25,173.

P., a very ancient town, is said in legend to have been founded by the Colchians sent in pursuit of Jason. It was destroyed by Julius Cæsar, but rebuilt by Augustus at the request of his daughter Julia, on which account it was named *Pietas Julia.* In ancient times it had 30,000 inhabitants, and was a station of the Roman fleet. It contains numerous and interesting Roman remains, among which are a beautiful and well-preserved amphitheatre, 436 ft. long and 346 broad. A temple and several ancient gates also remain. See Allason's *Antiquities of Pola* (Lond. 1819).

POLACCA, n. *pō-lăk'kă* [Port. *polaca;* It. *polacra*], or POLACRE, n. *pō-lā'kėr* [Sp. and F.], or POLAQUE, n. *pō'lăk* [F.]: vessels common in the Mediterranean, with three masts and a jib-boom; the fore and main-masts each of one piece ('pole-masts'), and the mizzen-mast with a top and top-mast. They usually carry square sails, though a few are rigged with a peculiar form of sail to which also the term *polacre* is applied. The fore and main-masts have, of course, neither tops, caps, nor cross-trees.

POLACCA, n. *pō-lăk'kă* [F. *polaque*], or POLONAISE (q.v.): a Polish national dance of slow movement in ¾ time. It always begins and terminates with a full bar, and a peculiar effect is produced by the position of its cadence, the dominant seventh in the second crotchet of the bar preceeding the triad on the third crotchet:



The characteristic features of the P. are sometimes adopted in a Rondo, or other lively and brilliant composition, which is then said to be written *Alla Polacca* [It., in the style of the Polacca].

POLACK, n. *pō'lăk* [F. *Polaque*]: in *OE.*, an inhabitant of Poland.

POLAND, *pō'land;* called by the natives *Polska* (a plain): former kingdom in Europe—renowned in mediæval history as the sole champion of Christendom against the Turks; and through the earlier part of the 19th c. an object of general and profound sympathy throughout w. Europe, from its unprecedented misfortunes. Immediately previous to its dismemberment, P. was bounded n. by the Baltic Sea from Danzig to Riga, and by the Russian provinces of Riga and Pskov; e. by the Russian provinces of Smolensk, Tchernigov, Poltava, and Kherson; s. by Bessarabia, Moldavia, and the Carpathian Mountains; w. by the Prussian provinces of Silesia, Brandenburg, and Pomerania. Its greatest length n. to s. was 713 English m.; e. to w. 693 m.; about 282,000 sq. m. This area had pop. (1880) 24,000,000. The present pop. of the provinces included in the P. of former days consists of Poles, Lithuanians, Germans, Jews, Russians, Roumanians, gypsies, etc. The Poles, 15,600,000, form the bulk of the population; the Lithuanians, 2,100,000, inhabit the n.e. of the country; the Germans, 2,000,000, live mostly in towns and in villages by themselves, and bear the usual character for economy, industry, and that excessive love and admiration for the 'Fatherland' which guided their politics during the last days of Polish independence; the Jews are numerous, reckoned at 2,200,000, but here they are poorer and less enterprising than in other countries; the remainder is composed of Russians (few, excepting in some e. districts), Russian soldiery, Roumans, gypsies, Magyars, etc. As to religion: of Rom. Catholics there are about 9,400,000; Greeks, United and Non-United, 7,900,000; Protestants (mostly Lutherans and German) 2,360,000; the rest are Jews, Armenians, Moslems, etc. This extensive tract forms part of the great central European plain, and is crossed by only one range of hills, which springs from the n. side of the Carpathians, and extends n.e. through the country, forming the watershed between the Baltic and Black Sea rivers. The soil is mostly a light fertile loam, well adapted for cereal crops, though here and there are extensive barren tracts of sand, heath, and swamp, especially in the e. districts. Much of the fertile land is permanent pasture of richest quality; much is occupied with extensive forests of pine, birch, oak, etc. Rye, wheat, barley, and other cereals, hemp, wood and its products, honey and wax, cattle, sheep, and horses, inexhaustible mines of salt, and a little silver, iron, copper, and lead, constitute the chief natural riches; and for export of the surplusage of these products, the Vistula, Dnieper, Duna, and their tributaries afford extraordinary facilities.

The kingdom of P., during the period of its greatest extent, after the accession of the grand duchy of Lithuania in the beginning of the 15th c., was sub-divided for purposes of government into about 40 palatinates or voivodies, governed mostly by hereditary chiefs. The people were divided into two great classes—nobles and serfs. The governing and privileged class included the higher nobles, the inferior nobles (a numerous class, corresponding to the knights, gentry, etc., of other countries), and the clergy; and numbered in all more than 200,000: the serfs were the merchants, tradesmen, and agriculturists, and were attached, not, as in other countries, to masters, but to the soil, being thus much less liable to ill-usage, and retaining more human energy and dignity. The nobles were proprietors of the soil, and appropriated the larger portion of its products, the serfs in many cases receiving only as much as was necessary for the support of themselves and their families. The nobles were chivalrous, high-spirited, hospitable, and patriotic; the serfs, who had also a stake, though a small one, in the independence of the country, were patriotic and good-natured, but sluggish.

History.—The Poles are ethnologically a branch of the Slaves (q.v.). The name appears in history first as the designation of a tribe, the Polani, who dwelt between the Oder and Vistula, surrounded by the kindred tribes of the Masovii, Kujavii, Chrobates, Silesians, Obotrites, and others. The Polani acquired an ascendency over the other tribes, most of whom became amalgamated with the ruling race, whose name thus became the general designation. Polish historians profess to go as far back as the 4th c.; but the lists of rulers which they give are probably those of separate tribes, and not of the combined race now known as Poles. At any rate, the history of P., previous to the middle of the 9th c., is so largely adulterated with fables as to be little trustworthy.—ZIEMOVICZ, said to be the second monarch of the Piast dynasty, is considered the first ruler whose history is to any extent to be relied on; and it was not till a century later, when his descendant, MICISLAS I. (962–992), occupied the throne, and became a convert to Christianity, that P. took rank as one of the political powers of Europe. Micislas (as was the general custom among the Polish rulers) divided his dominions among his sons; but one of them, BOLESLAS I. (992–1025), surnamed 'the Great,' soon reunited the separate portions, and extended his kingdom beyond the Oder, the Carpathians, and the Dniester, and sustained successful war with Emperor Henry II. of Germany, conquering Cracovia, Moravia, Lusatia, and Misnia. He took part also in the dissensions of the petty Russian princes. Under him, P. began to assume unity and consistency; commerce, impartial administration of justice, and Christianity were encouraged; and about the same time, the distinction between the nobles or warrior class (those who were able to equip a horse) and the agriculturists was distinctly drawn. Boleslas was recognized as 'king' by the German emperors.—After a period of anarchy, he was succeeded by his son, CASIMIR (1040–58), whose reign, and that of his warlike son, BOLESLAS II. (1058–81), though brilliant, were of little profit to the country. The latter monarch having with his own hands murdered the bp. of Cracow (1079), P. was laid under the papal interdict, and the people absolved from their allegiance; Boleslas accordingly fled to Hungary, but being, by order of the pope, refused shelter, he is said to have committed suicide (1081).—BOLESLAS III. (1102–39), an energetic monarch, annexed Pomerania, defeated the pagan Prussians, and defended Silesia against the German emperors. A division of the kingdom among his sons was productive of much internal dissension, under cover of which Silesia was severed from P., though still nominally subject to it.—Ultimately, CASIMIR II. (1177–94) reunited the severed portions, except Silesia, and established on a firm footing the constitution of the country. A senate was formed from the bishops, palatines, and castellans, and the rights of the clergy and of the peasantry were accurately defined. His death was the signal for a contest among the various claimants for the throne, speedily followed, as usual, by a division of the country; and during this disturbance Pomerania freed itself from Polish rule. About the same time, the Teutonic Knights were summoned by the Duke of Masovia to aid him against the pagan Prussians; but they soon became as formidable enemies to P. as the Prussians, and conquered great part of Podlachia and Lithuania. The Mongols swept over the country 1241, reducing it to the verge of ruin, and defeating the Poles in a great battle near Wahlstatt. From this time, P. began to decline; various districts were ceded to the markgrafs of Brandenburg, while many districts began to be colonized by Germans. Numbers of Jews, persecuted in w. Europe about this time, took refuge in Poland.—WLADISLAS (1305–33), surnamed *Lokietek* (the Short), restored unity to the country; judicial abuses and all illegally acquired privileges were abolished, and the first diet (1331) assembled for legislative purposes. In conjunction with Gedymin, Grand Duke of Lithuania, a vigorous war was carried on against the Teutonic Knights, on returning from which the monarch (70 years old) had a triumphant reception from his subjects, who hailed him as the 'father of his country.'—His son, CASIMIR III. the Great (1333–70), greatly increased the power and prosperity of P. by cultivating with zeal the arts of peace, amending the laws, and consolidating his territories by profitable exchanges with the neighboring powers. In the latter part of his reign, he successfully defended sundry new acquisitions against the Tartars, Lithuanians, and Walachians. With Casimir, the Piast dynasty became extinct, after a sway of 510 years, according to the old Polish chroniclers.—His nephew, LEWIS the Great, King of Hungary, succeeded him, by the will of the deceased monarch and the election of the diet; but during his reign, P. was treated merely as an appanage of Hungary. On his death without male heirs, the crown fell to JAGELLO (WLADISLAS II.), Grand Duke of Lithuania, son-in-law of Lewis, who founded the dynasty of the *Jagellons* (q.v.) (1386–1572), and for the first time united

Lithuania and P., thus doubling the extent, though not the population, of the kingdom. However, his successor, **WLADISLAS III.**, was acknowledged only in P. proper, the Lithuanians preferring the rule of the younger son, Casimir. Wladislas was chosen king of Hungary also, and fell at the battle of Varna; being succeeded in P. by **CASIMIR IV.** (1444–92), who again united it to Lithuania. Casimir recovered W. Prussia from the Teutonic Knights, and compelled them to do homage for E. Prussia, rewarding the inferior nobles, or warrior class, with more extensive privileges, putting them on equality of rank with the great chiefs of the realm, and at the same time necessarily oppressing the peasantry. Manufactures and commerce revived to a wonderful extent during his reign in the w. provinces.—The brief reigns of his three sons were marked only by the increased power of the two houses of the diet, which had by this time absorbed all but the symbols of supreme authority, and had converted P. from a monarchy to an oligarchy—the king possessing little power beyond what his personal influence gave him.—**SIGISMUND I.** (1506–48), surnamed the Great, fourth son of Casimir, raised the country to the height of prosperity. Generous and enlightened, he was beloved by the masses, whom he endeavored to benefit physically and mentally, while his firmness and justice commanded the respect of the turbulent nobles. He wisely kept aloof from the religious quarrels which distracted w. Europe, by allowing his subjects perfect freedom of choice in religion; he was, however, forced into a war with Russia, in which he lost Smolensk; but was partly compensated by obtaining lordship over Moldavia.—His son, **SIGISMUND II.**, Augustus, was a worthy successor. During his reign many abuses were rectified, and the extraordinary privileges of the higher nobles were curtailed or abolished; Lithuania was finally joined indissolubly to P., and from this time there was to be but one diet for the united realm; each retained, however, its own army, titles, treasury, and laws. Lithuania was at the same time reduced by the annexation of Podlachia, Volhynia, and the Ukraine, to Poland. Livonia was conquered from the Knights Sword-bearers (a community similar to, though much less distinguished, than the Teutonic Knights); and the power, prosperity, and opulence of the state seemed to guarantee its position as the most powerful state in e. Europe for a long time to come. The population almost doubled itself under the two Sigismunds; but this dynasty, whose sway was so happy for P., ceased with them; and the warrior class, having tasted the sweets of freedom, determined to preserve it by rendering the monarchy elective. The election was made by the two chambers of the diet—viz., the senate, or chamber of the chief nobles, and the chamber of nuncios, or representatives of the inferior nobles. He who was chosen king possessed the right of assembling the diet, but had to give a list of the subjects to be discussed; and the representatives, before setting out, were instructed as to the side they were to support. The diet lasted only six weeks, and its decisions were required to be unanimous; so that if the *liberum veto* (the right of forbidding the passing of any measure) were freely exercised even by a single member, all legislation was at a stand-still. The evil effects of these regulations were not so much felt at first, as the members were characterized by honesty and zeal for the general good; but latterly, when venality and subservience to the neighboring powers began to show themselves, all the measures necessary for protecting P. from dependence on her neighbors were, by a few corrupt and treacherous representatives, rendered of no avail.—The first elective monarch was HENRY of Valois (III. of France, q.v.), who, however, soon abandoned the throne for that of France, and was succeeded by STEPHEN BATHORY (1575–86), voivode of Transylvania, a man of energy and talent, who carried on war successfully against the Russians, who had attempted to seize Livonia, pursued them into the very heart of their country, and compelled the czar to sue for peace; he also subdued the semi-independent Cossacks of the Ukraine, and to some degree introduced civilization among them.—His successor, SIGISMUND III. (1586–1632), who was succeeded by his sons, WLADISLAS IV. (1632–48) and JOHN CASIMIR (1648–72), was of the Vasa family, and was the crown-prince of Sweden; but his election, far from cementing union between the two countries, only embittered former dissensions. These three Swedish monarchs were most unworthy successors to P.'s ablest king, as they had neither talents for governing, nor characters and sentiments congenial to a warlike nation; on the contrary, their policy was weak, tortuous, and vacillating. Yet they were always quarrelling with their neighbors, declaring war with Russia, Sweden, or Turkey, in the most imprudent and reckless manner, and often without valid pretext. But the Polish armies, though as little fostered and cared for as the other portions of the nation, were everywhere victorious; the Swedish and Muscovite armies were successively annihilated; Moscow was taken, and the Russians reduced to such an abject condition, that they offered to make Sigismund's son, Wladislas, their czar. Sweden made a similar offer to another son of the Polish monarch; but the latter's absurd behavior lost for P. this rich result of her great victories; and the foolish policy of the whole three not only rendered fruitless all the lavish expenditure of Polish blood and treasure, but lost to the country many of her richest provinces, and left her without a single ally; while their religious bigotry commenced that reign of intolerance and mutual persecution between the various sects which was the immediate cause of P.'s downfall. To show the power of the Poles at this period, it will be sufficient to notice that Great P., Little P. (Galicia, Podolia, Ukraine, etc.), Livonia, Lithuania (including Samogitia and Black and White Russia, Polesia, and Tchernigov), Pomerelia and Ermeland, Courland, Moldavia, Bukovina, Walachia, Bessarabia, and Prussia, were either integral parts of the Polish monarchy, or subject to it. The imprudent attempts of the Swedish sovereigns to amend the constitution only excited the suspicion of the nobles, and led to further curtailment of royal authority. During the reign of this dynasty, Walachia and Moldavia were snatched by the Turks from under the Polish protectorate; Livonia with Riga was conquered (1605–21), with part of Prussia (1629), by Sweden; and Brandenburg established itself in complete independence. The Cossacks, who had been goaded almost to madness by atrocious oppression and religious persecution, rose in rebellion, put themselves under the protection of Russia, and ever afterward proved themselves the most inveterate enemies of the Poles. In the reign of John Casimir (1648–72), P. was attacked simultaneously by Russia, Sweden, Brandenburg (the germ of the present kingdom of Prussia), the Transylvanians, and the Cossacks; the country was entirely overrun; Warsaw, Vilna, and Lemberg taken; and the king compelled to flee to Silesia. But the renowned staff of Polish generals was not yet extinct: Czarniecki's sword was as the breath of the destroying angel to P.'s enemies, which, after being defeated in detail, were ignominiously expelled from the country. But in the subsequent treaties, Ducal or E. Prussia was wholly given up to Brandenburg; almost all Livonia to Sweden; and Smolensk, Severia or Tchernigov, and the Ukraine beyond the Dnieper, were given to Russia.—MICHAEL WISNIOWIECKI (1668–74), son of one of the group of famous generals above alluded to, but himself an imbecile, was (contrary to his own wish—for he was aware of his own deficiencies) elected as their next monarch; a war with Turkey, concluded by an ignominious peace, was the chief event of his reign. But the senate rejected the shameful treaty, the Polish army was re-enforced, the Polish monarch resigned the command to John Sobieski the Hetman (q.v.), and the Turks were routed with great slaughter at Chotyn (1673).—After some dissensions concerning the election of a successor, JOHN (III., q.v.) SOBIESKI (1674–96) was chosen; but his reign, though it crowned the Poles with abundance of the laurel wreaths of victory, was productive of no good to the internal administration.—As Sobieski's successor, the Prince of Conti was legally elected, and proclaimed king; but the cabinet of Versailles allowed this splendid opportunity of becoming supreme in Europe to escape; and AUGUSTUS II. of Saxony, protégé of the House of Austria, entered P. at the head of a Saxon army, and succeeded in obtaining the throne. Augustus, unlike all his predecessors, never seemed to identify his interests with those of his Polish subjects; and though he gained their hearts by promising to reconquer for P. her lost provinces, yet this promise was chiefly an excuse for keeping his Saxon army in the country, in violation of the *pacta conventa* (the 'Magna Charta' of Poland). His war with the Turks restored to P. part of the Ukraine and the fortress of Kaminetz; but his war with Charles XII. brought nothing but misfortune. The war with Sweden was unpopular in P.; in fact, the Poles of the e. provinces received Charles with open arms; but his attempt to force on them Stanislas Lesczynski as their king severely wounded their national pride. Augustus returned after the battle of Poltava (q.v.); his rival retired without a contest; a close alliance was formed with Russia, and the Russian troops which had campaigned in P. against the Swedes were, with his Saxon army, retained. The Poles demanded their extradition, but in vain; and the Russian cabinet interfered (1717) between the king and his subjects, compelling both parties to sign a treaty of peace. This was the commencement of P.'s dependence on Russia, and of her consequent decline. By instigation of Peter the Great, the Polish army was reduced from 80,000 to 18,000; and the country was further weakened by diffusion of effeminacy, immorality, and prodigality, through the evil example and influence of the court. Religious fanaticism also developed its most odious features during his reign, and the massacre of the Protestants at Thorn (1724), and the legalized exclusion of them from all public offices, was the result.—The succeeding reign of AUGUSTUS III. (1733–63) was of the same character; the government fell more and more under Russian influence, and its political relations with other countries gradually ceased. Toward the end of his reign, the more enlightened of the Poles, seeing the radical defects of the constitution, the want of a strong central government, and the dangers of the *liberum veto*, entered into a league to promote the establishment of a well-organized hereditary monarchy. But the conservative or republican party was equally strong, and relied on Russian influence; and the conflict between these parties became embittered from the fact that the monarchists supported the Jesuits in disqualifying all dissenters from holding public offices, while the republican party supported the dissidents. The dissidents dated their grievances from 1717, but the great conflict between them and their opponents did not break out till 1763.—The cabinets of St. Petersburg and Berlin now (1764) presented to the Poles STANISLAS PONIATOWSKI as their king. This gross insult, intensified by the incapacity of Stanislas for such an office, could not be borne in quiet; the king and the Russian ambassador were compelled in the diet to listen to the most spirited protests against Russian interference; but the intense national spirit of the Poles only recoiled upon themselves, for the Russian ambassador craftily incited them to insurrection, and kept alive their mutual dissensions. The monarchic or Czartoryski party (so called because it was headed by a Lithuanian prince of this name) had succeeded in abolishing the *liberum veto*, and effecting many other improvements; but they at the same time more severely oppressed the dissidents; and Russia, finding that the political policy of this party was speedily releasing P. from her grasp, joined the party of the dissidents as the champion of religious toleration. Her ambassador caused the chief leaders of the Rom. Cath. party to be secretly kidnapped, and sent to Siberia, and compelled the republicans to accept the protectorate of Russia. The 'Confederation of Bar' (so called from Bar in Podolia) was then formed by a few zealous patriots, an army was assembled, and war declared against Russia. The confederates were supported by Turkey, which also declared war against the czarina; and Russia in alarm proposed to the king and diet an alliance, which both firmly refused.—Frederick the Great of Prussia, who had formerly gained the consent of Austria to a partition of P., now (1770) made the same proposal to Russia, and in 1772 the *first partition* was effected; Stanislas and his diet claiming the mediation and assistance of the other powers of Europe without effect. He was forced in the following year to convoke a diet for the purpose of recognizing the claims of the three partitioning powers to the territories that they had seized; but few members appeared, and these preserved perfect silence. The territories seized by the three powers were as follows:

	Sq. m.	Pop.
Russia	42,000	1,800,000
Prussia	13.000	416,000
Austria	27,000	2,700,009

The whole country was now aroused to its danger; and the diet of the diminished kingdom labored to amend the constitution and strengthen the administration by a liberal code of laws and regulations, which gave political rights to the cities, civil rights to the peasantry, and rendered the kingly authority hereditary. In this they were encouraged by Prussia, whose king, Frederick William, swore to defend them against Russia; but 1791, Catharine II., after great labor, obtained, by intrigues and bribery, the services of *five* (out of 200,000) of the Polish nobility, who protested against the new constitution which had just then (1791, May 3) been established, and drew up a document at Targowitz (q.v.), which they forwarded to the Russian court.—Catharine, thus armed with a pretext for interference, advanced her army; and Prussia proving traitorous, a second fruitless resistance to the united Prussians and Russians, headed by Joseph Poniatowski (q.v.) and Kosciusko (q.v.), was followed by a *second partition* (1793) between Russia and Prussia, as follows:

	Sq. m.	Pop.
Russia	96,000	3,000,000
Prussia	22,000	1,100,000

—which the diet was forced at the point of the bayonet to sanction. The Poles now became desperate; a general rising took place (1794); the Prussians were compelled to retreat to their own country, and the Russians were several times routed; but a new enemy then appeared on the scene. Austria was chagrined at having had no part in the second partition, and was determined not to be behindhand on this occasion; her army accordingly advanced, compelling the Poles to retreat; and fresh hordes of Russians arriving, Kosciusko, at the head of the last patriot army, was defeated; and the sack of Praga, followed by the capture of Warsaw, finally annihilated the Polish monarchy.—The *third and last partition* (1795) distributed the remainder of the country as follows:

	Sq. m.	Pop.
Russia	43,000	1,200,000
Prussia	21,000	1.000,000
Austria	18,000	1,000,000

King Stanislas resigned his crown, and died brokenhearted at St. Petersburg 1798.—The subsequent success of the French against the Russians, and the tempting promises of Emperor Napoleon to reconstitute P., rallied round him a faithful army of patriots, who distinguished themselves in the campaigns of the French against Russia and Austria; but all that Napoleon accomplished in fulfilment of his promise was the establishment by the treaty of Tilsit (1807) of the *duchy of Warsaw*, chiefly out of the Prussian share of P., with a liberal constitution, and the Elector of Saxony as its head. The duchy was an energetic little state, and, under the guidance of Prince Joseph Poniatowski, wrenched western Galicia from Austria (1809), at the same time furnishing a numerous and much-valued contingent to the French armies; but the advance of the grand allied army 1813 put an end to its existence. After the cessions by Austria 1809, the duchy contained 58,290 sq. m., with pop. about 4,000,000.—Danzig was also declared a republic, but returned to Prussia 1814, Feb. 3.—The division of P. was rearranged by the Congress of Vienna 1815, the original shares of Prussia and Austria were diminished, and that part of the duchy of Warsaw which was not restored to Prussia and Austria was united as the *kingdom of P.* (see that article) to the Russian empire, but merely by the bond of a personal union (the same monarch being the sovereign of each), the two states being wholly independent of and unconnected with each other; and the other parts of P. were completely incorporated with the kingdoms which had seized them. The partition of P., as thus finally arranged, was as follows:

	Sq. m.	Pop. (1859.)	Present Political Divisions.
Russia,	220,500	16,000,000	Provinces of Courland, Witebsk, Kovno, Vilna, Grodno, Minsk, Mohilev, Volhynia, Kiev, Podolia; and the *kingdom of Poland* (q.v.).
Prussia,	26,000	3,000,000	Posen, most of W. Prussia, and several districts in E. Prussia.
Austria,	35,500	5.000,000	Galicia, Bukovina, Zips, etc.

Meanwhile, as in mockery of its spirit of independence, the town of Cracow, with a small surrounding territory, was declared free and independent, under guardianship of Austria.—The czar at first gave a liberal constitution, including biennial diets, a responsible ministry, an independent judiciary, a separate standing army, and liberty of the press; and he seemed to take pride in his title of king of P.; but his brother Constantine, having been appointed military gov., speedily put an end to the harmony between the czar and the Poles, and drove the latter into insurrection. Their discontent at first found vent in secret societies; but 1830, Nov. 30, Constantine and his Russians were driven out of Warsaw, and a general insurrection of the people, headed by the aristocracy, took place. Prince Czartoryski was appointed pres. of the provisional govt., and military leaders, as Radzivil, Dembinski, Bem, etc., were soon found; but a general lack of energy in the administration, dilatoriness of the military leaders, and the checking of the spread of the insurrection for fruitless negotiations with Nicholas, were errors fatal to the success of the Poles. 1831, Jan.—Sep. 8, a series of bloody conflicts was fought, in which the Prussians and Austrians, with pitiable subservience, aided the czar. At first, the Poles were successful; but the taking of the capital by Paskevitch (q.v.) soon ended the war, which was followed of course by imprisonment, banishment, confiscation, and enforced service in the Russian army. From this time, the independence of P. was suppressed, and 1832 P. was declared an integral part of the Russian empire, with a separate administration headed by a viceroy of the czar's choosing; the constitution and laws were abrogated; strict censorship of the press and the Russian spy police-system in all its vigor were established; the country was robbed of its rich literary collections and works of art, and the most severe and arbitrary measures taken to Russianize the people. The outbreaks of 1833 and 46 were punished by the gallows. Simultaneous disturbances (1846) in the Prussian and Austrian portions of P. were summarily suppressed; their leaders in Prussia were imprisoned, and saved from death by only the revolution (1848, Mar.) at Berlin; and those in Austria were butchered by the peasantry, who preferred the Austrian to a national govt. 1846, Nov. 6, the republic of Cracow was incorporated with Austria. After the accession of Czar Alexander II. 1855, the condition of the Poles was ameliorated; an act of amnesty brought back many of the expatriated Poles, and various other reforms were hoped for, when, 1861, another insurrection broke out. Its origin is remarkable, and gives insight into the relations between the Poles and their Russian rulers. A large multitude (30,000) had assembled in the neighborhood of the battle-field of Grochow (where two battles had been fought in the spring of 1831), to pray for the souls of those who had fallen; they were engaged in prayer and in religious chants, when they were charged by the Russian cavalry and gens d'armes, several of them killed, and numerous arrests made. This event excited intense national feeling throughout the country; and other national demonstrations, attended with similar massacres on the part of the Russians, produced such intense dislike to the latter, that most of the Poles in the Russian service either resigned or deserted. The Russians immediately had recourse to most severely repressive measures, forbidding all assemblages, even in the churches, punishing those who appeared to mourn the death of relatives killed in the previous massacres, or who wore garments of certain shapes or colors. The application of the Polish nation to the czar (Feb. 28) for the re-establishment of the Polish nationality was rejected, but certain necessary reforms were promised. These reforms were on the whole very liberal; but new disturbances broke out in Oct. of the same year. P. was then declared in a state of siege, and General Luders appointed military commandant under Grand Duke Constantine, nephew of the Grand Duke Constantine above mentioned. The country continued in commotion without any very decided outbreak; attempts were made to assassinate the grand duke and the other Russian officials; and 1863, Jan. 13, Lithuania and Volhynia also were put in a state of siege. The Committee of the National Insurrection issued its first proclamation 1863, Feb.; and a week afterward, Mieroslavski raised the standard of insurrection in the n.w., on the Posen frontier. The Insurrection Committee continued to guide the revolt by issuing proclamations from time to time; and many districts of Augustovo, Radom, Lublin, Volhynia, and Lithuania, were speedily in insurrection. It was a mere guerilla war, and no great or decisive conflicts took place; but the sympathy of Europe was largely enlisted on behalf of the Poles. Remonstrances from Spain, Sweden, Austria, France, and Britain, conjointly and repeatedly, and from Italy, the Low Countries, Denmark, and Portugal, were wholly disregarded by the czar's ministers, and mutual reprisals continued; incendiarism and murder were rampant; the wealthier Poles were ruined by fines and confiscations; and the whole populations of villages were put to the sword by the Russians; while murders and assassinations marked the reign of terror of the National Committee. At last, with the officious assistance of Prussia, and the secret sympathy and support of Austria, the czar's troops succeeded in trampling out (1864) the last embers of insurrection. Great numbers of men, women, and even children, were put to death; crowds were transported to Siberia; and these vigorous measures seem to have restored 'tranquillity, but it is the tranquillity of the desert.' Contemporary with this last outbreak, symptoms of similar disaffection were distinctly noticeable in Prussian P., but a strong force of soldiery in the border districts toward Russia prevented any outbreak. It is noticeable that, except the single revolt of 1846 (which perished almost of itself), no rebellion has ever taken place in the portion of P. belonging to Austria.

PO'LAND, KINGDOM OF: province of European Russia, united to that empire 1815—though the title of kingdom was left, and a peculiar form of government long continued to distinguish it from the other provinces.—It is surrounded by Prussia, Austria, and w. Russia or Russian Poland; area 48,863 sq. m. Pop. (1880) 7,104,760. In 1867 there were 4,326,473 Rom. Catholics, 783,079 Jews, 331,233 Protestants (Lutherans and Reformed), and 259,192 Greek Church (mostly united). The surface of the country is in general very level, with now and then an undulation. In Radom, however, there is a range of hills, some of which rise 2,000 ft. above sea-level. The chief river of P. is the Vistula, which enters the country by its s. boundary, and flows first n. and then n.w., making its exit near Thorn; two of its tributaries, the Wieprz and the Pilica, belong wholly, and a third, the Bug, partially to Poland. The Warta, one of the tributaries of the Oder, drains the w., and the Niemen the n.e., districts. The Vistula and the Niemen are wholly navigable in P.; and the Bug, Narew, and Warta are so for a considerable portion of their course. By these means of communication, the exports of the country are collected at Danzig, Stettin, Memel, and Tilsit, on the Baltic, and the imports introduced into the country. The climate is severe, the summers being very hot, and the winters excessively cold. The soil very much resembles that of the other parts of the former kingdom of Poland, producing magnificent crops of wheat, rye, barley, oats, and buckwheat, the usual leguminous plants, hemp, tobacco, flax, and orchard-fruits. More than 13,000 sq. m. are covered with forests, and fully 8,000 sq. m. waste. Since 1867, Poland is divided for administrative purposes into 10 governments—viz.:

Governments.	Sq. m.	Pop. (1873.)
Kalisz	4,197	687,371
Kielce	3,621	536,146
Lomza	4,400	495,105
Lublin	6,260	734,018
Piotrkov	4,484	682,495
Plock	3,995	490,143
Radom	4,755	546,945
Siedlce	5,295	550,103
Suwalki	4,650	542,750
Warsaw	5,433	1,090,973
Total	47,090	6,356,049

The pop., about 128 to the sq. m., is more than three times as dense as that of the rest of European Russia. A large proportion of the country people employ themselves in rearing and breeding of horses, cattle, and pigs; sheep are not so common; swarms of bees abound, and there is large export trade in honey. The people of the towns are employed largely in wool-spinning and manufacture of woolen cloth, cotton and linen spinning and weaving, production of liquors, oil, vinegar, glass and earthenware, paper, beer and porter, etc. The most of the commerce is in the hands of the Jews.—P., which had a separate government till 1864, was in that year deprived of the last remnant of its administrative independence. After the suppression of the revolt (see POLAND), the country was placed under eight military governors; 1867 the administration was committed to a commission sitting at St. Petersburg; and 1868 the govt. of P. was absolutely incorporated with that of Russia. The total value of Polish industries 1870–80 was about $58,320,000 a year, while the commerce of P. reached $126,360,000. The Warsaw daily press has an issue of 24,000 copies. There were published (1877–81) 296 works in belles-lettres in the Polish tongue, of which 192 were in Poland itself, and 80 in Galicia. About 13,000,000 persons in all, in Russia, Prussia, and Austria, speak Polish.

POLAR, a. *pō′lėr* [F. *polaire;* mid. L. *polaris*, polar—from L. *polus;* Gr. *polos*, the end of an axis, a pole—from *pelein*, to be in motion]: pert. to one of the poles of the earth; situated near one of the poles; proceeding from the regions around either pole. POLAR ANGLE, on the *terrestrial sphere*, the angle at the pole formed by two meridians; on the *celestial sphere*, the angle at the pole formed by two hour-circles. POLAR BEAR, a species of bear inhabiting the arctic regions, having a silvery-white fur tinged with yellow. POLAR CIRCLES, the two parallels of latitude encircling the poles, each at a distance of about 23° 28′—the *north polar circle* is called the *arctic circle* (see ARCTIC), and the *south* the *antarctic circle*. POLAR DISTANCE, the angular distance of a heavenly body from the elevated pole of the heavens. POLAR CLOCK, optical instrument invented by Sir Charles Wheatstone, by which the hour of the day is indicated by means of the Polarization of Light (q.v.). POLARIM′ETER, n. *-ĭm′ĕt-ėr*, instrument for measuring the deflection of polarized light. POLARISCOPE, n. *pō-lăr′ĭ-skōp* [Gr. *polos*, a pole; *skopĕō*, I see]: instrument for detecting polarized light, or for testing its amount and exhibiting its phenomena; there are several kinds of these instruments, and what is called the analyzer in a polarizing apparatus performs a similar work (see POLARIZATION OF LIGHT: also SACCHARIMETER). POLARIZE, v. *pō′lėr-īz*, to render incapable of exhibiting the ordinary phenomena of reflection and transmission—applies to rays of light when acted upon by certain media and surfaces. PO′LARIZING, imp.: ADJ. effecting polarization. PO′LARIZED, pp. *-īzd:* ADJ. affected by polarization. PO′LARIZER, n. *-ī-zėr*, that which polarizes. PO′LARIZABLE, a. *-ī-ză-bl*, capable of being polarized. POLARIZATION, n. *pō′lėr-ī-zā′shŭn*, the act of polarizing; the state of being polarized, or of having polarity. POLARITY, n. *pō-lăr′ĭ-tĭ*, the having two poles opposite, with variations in certain physical properties correspondent with the two opposite directions: property possessed by certain bodies of pointing, when freely suspended, toward the poles of the earth, or in certain determinate directions (see below). POLARY, a. *pō′lėr-ĭ*, that tends or points to a pole.

PO'LAR EXPEDI'TIONS: voyages of discovery toward the n. and s. poles, and to the regions within the Arctic and Antarctic Circles. The n. polar regions present a much greater land-surface than those round the s. pole; thence they have a higher temperature, and offer a more valuable field for discovery, for which reasons, as well as their greater proximity, they have attracted far the most of polar expeditions.

Arctic Expeditions.—Polar expeditions were commenced with a view to discover a shorter route to the golden realms of the East; but the first attempts were made by coasting along the n. of Europe and America: see NORTHEAST AND NORTHWEST PASSAGES. In 1603 the first arctic exploring expedition, consisting of one vessel, the *Godspeed*, commanded by Stephen Bennett, started for a voyage of n. discovery; and this, as well as the succeeding expeditions of Bennett, were engaged in morse-hunting rather than in geographical investigation. In 1607 Henry Hudson (q.v.) was sent out by the Muscovy Company to penetrate to the n. pole, but he was stopped about the n. of Spitzbergen (lat. 81° 30') by the ice. The succeeding voyages of Jonas Poole 1610,11,12, and of Baffin 1613, were not primarily voyages of discovery, and added nothing to the knowledge of the polar regions; but in the expedition of Fotherby and Baffin up Davis' Strait, in the following year, Baffin discovered a n. outlet to the bay called by his own name, which was denominated Smith's Sound. Fotherby was sent out again 1615, and attempted to pass through the sea which lies between Greenland and Spitzbergen, but was again baffled, and compelled to return, after correcting some erroneous observations of Hudson. These seven expeditions were sent out by the Muscovy Company; and the cargoes of seal-skins, oil, teeth, etc., which they brought back helped to defray the expense of their outfit. For the next century and a half the attempts to reach the n. pole were not resumed; but the extraordinary zeal in naval discovery which sprang up in the beginning of George III.'s reign, produced two renewed efforts. The first of these was made in the spring of 1773, by an expedition of two vessels under Capt. John Phipps (afterward Lord Mulgrave), and fitted out by the admiralty purely for scientific purposes. Phipps sailed along the shore of Spitzbergen till he was stopped by the ice at Cloven Cliff; he then coasted forward and backward along the ice-field for nearly a month, trying the various narrow openings, some of which extended two leagues, till he found one which took him into open water. By a sudden change in the temperature he was frozen in, and extricated his ships only after severe labor. The highest point to which he reached was lat. 80° 48' n., less by 49 m. than the most northerly latitude attained by Hudson; and though he had a more than usual amount of difficulties to encounter, yet his failure, with that of Capt. Cook, who attempted to reach the pole by Behring Strait, but penetrated only to lat. 70° 45' n., greatly disheartened other explorers. The offer of £5,000 by the British parliament to the crew that should

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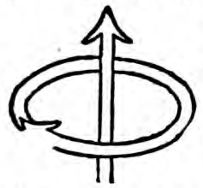
penetrate to within 1° of the pole awakened no competition; but Scoresby, then (1806) mate of a Greenland whaler from Hull, reached a point directly n. of Spitzbergen, in lat. 81° 30′ n., therefore only about 510 geographical m. from the pole. In later expeditions the same enterprising navigator made many geographical explorations of Jan Mayen's Land and the e. coast of Greenland, largely adding to our knowledge of the character and products of the arctic regions. The subsequent expeditions of Buchan and Franklin 1818, of Clavering 1823, of Graab (Danish) 1828, of De Blosseville (French) 1833, may be considered fruitless for geographical discovery. After the failure of Buchan and Franklin's expedition, the impossibility of ever reaching the pole was generally accepted as fact; but Scoresby, in a Memoir which he communicated to the Wernerian Soc., endeavored to disprove this supposed impossibility, and to show that a journey to the pole might be made without any enormous difficulty or danger. The principal obstacle being the alternation of ice-fields and water, which prevented all advance either by ships or sledges, Scoresby proposed the use of a vehicle which could be used as either a sledge or a boat, and recommended a team of dogs to draw it, they being lighter (for conveyance by water, and for travelling over thin ice) and more tractable than reindeer. After some time this suggestion began to receive attention, and Capt. Parry (celebrated for his discoveries in the polar seas n. of America) was put in command of an expedition fitted out in accordance with Scoresby's plans. He sailed from England in the *Hecla*, 1827, Mar. 27, but it was June 22 before the exploring party quitted the ship, which was left on the n. shore of Spitzbergen in charge of a small crew, and betook themselves to the boats; and in spite of the advanced season of the year, they in the first two days advanced to 81° 13′. Here they began to encounter many difficulties; the ice-fields were small, and near each other, necessitating a constant conversion of the vehicle from a sledge to a boat, which could not be effected without unloading it, which consumed much time. This hardship, however, was endurable; but, to Parry's intense chagrin, he discovered, about July 22, that the ice over which they were travelling was moving s. as rapidly as they were advancing n., so that on the 24th, after having travelled apparently 22 m. in the three previous days, they found themselves in the same latitude as on the 21st. Under these circumstances, Parry resolved to return, which he accordingly did, reaching his ship Aug. 21. The highest point reached by him was 82° 40′. A new land, about 200 m. n. of Nova Zembla, to which the name Franz Joseph Land has been assigned, was discovered by the Austro-Hungarian Polar Expedition of 1872–74, under Lieutenants Weyprecht and Payer. Its s. coast lies about the 80th parallel, and it was explored, by means of sledges, up to 82° 5′ n., while land was seen extending as far as 83° n. In 1853 Elisha Kent Kane, in the *Advance*, reached lat. 78° 43′ in Smith's Sound, the highest lat. ever till then reached by a vessel in that sea. On the same expedition, Morton discovered Kennedy's Channel, and reached as far n. as Cape Constitution, 82° 27′ n. Hayes, 1860, continuing the exploration of Smith's Sound, reached 81° 35′ by sledge. The *Polaris*, bearing Capt. Charles Francis Hall, steamed without difficulty, 1871, through Smith's Sound into Kane Sea, and through Kennedy and Robeson channels to the Polar Sea: the *Polaris* reached lat. 82° 11′ n. Aug. 29. An English arctic expedition under Capt. Nares 1875–6 reached, through Smith's Sound, the highest latitude till then attained, 83° 20′. Lieut. Lockwood and Sergt. Brainerd, of the American Arctic Expedition, 1883, under Lieut. Adolphus W. Greely, U.S.A., reached 83° 24′. Of the party of 25 who landed at Discovery Harbor (lat. 81° 44′ n., long. 64° 45′ w.) with Greely, 1881, Aug. 12, only 6 were alive when the relief ships under Commander Schley came to the rescue, 1884, June 22; the survivors could hardly have lived 2 days more had help not arrived. See NORTHEAST and NORTHWEST PASSAGES.

Antarctic Expeditions.—The attempts to penetrate to the s. pole are of very recent date, mainly because a knowledge of the s. polar regions is valuable to Europeans for science only. Cook and Furneaux are the first navigators known to have crossed the Antarctic Circle, but the former penetrated only to lat. 71° 10′ s., and neither made any discoveries of importance. Bellinghausen, Russian navigator, reached lat. 70′ s. 1819; and two years later discovered Alexander's Land and Peter's Land, then the most southerly islands known. In 1823 Capt. Weddell reached lat. 74° 15′ s., long. 34° 16′ w., and saw beyond him an open sea to the south, but made no important additions to geographical knowledge. In 1831 Capt. John Biscoe discovered Enderby Land; 1839, the sealing-schooner, *Eliza Scott*, from New Zealand, discovered Sabrina Land (q.v.); and in the same year was sent out the U. S. expedition under Capt. Wilkes, which resulted in the discovery 1840, Jan., of what he with reason supposed a continuous coastline, though an ice-line 8 to 12 m. in width prevented him from establishing its continuity beyond dispute. The (supposed continental) coast stretched from Ringold's Knoll on the e. to Enderby Land on the w., and was distinguished by absence of currents to disturb the ice-barrier, and by a much less precipitous character than is usual with islands. In 1840 a French expedition under D'Urville discovered a line of coast directly s. from Victoria (Australia) on the Antartic Circle. But the most important discoveries were by Capt. (afterward Sir James) Clarke Ross, who made three voyages 1841–43, discovering Victoria Land (q.v.), and tracing its coast from lat. 71° to lat. 78° 10′ (the highest s. latitude ever attained). In his third voyage Ross proved that the lands discovered by D'Urville were islands of no great size; and his expedition supplied also much important information in nat. history, geology, and especially Magnetism (q.v.). Ross's geographical discoveries have since been confirmed; but an immense area within the Antartic Circle remains unexplored.

POLARISCOPE, *pō-lăr'ĭ-skōp:* instrument for determining the action of liquids on polarized light, and thus determining their contents of the polarizing ingredient. It is usually employed for analyzing sugars, the polariscope test being adopted by the U. S. govt. for determining duties on sugars. See SACCHARIMETER.

A tube like a short telescope is mounted horizontally on a stand. Its centre has a place for a glass-capped tube about 6 inches long, in which the sugar solution is placed. The telescope has at one end a polarizer which transmits through the apparatus the ordinary polarized ray, the extraordinary being refracted out of the field. This ray then passes through two quartz plates placed side by side, by which it is subjected to rotary polarization, both right and left-handed; one way for its right-hand and the other for its left-hand portion. The composite ray passes through the solution. As this has a rotary polarizing power, it adds to the polarization of one-half of the beam, and subtracts from that of the other so that the spot or disk of light seen through an analyzer in the eye-piece has two colors. Between the end of the liquid-containing tube and the observer are a pair of wedge-shaped quartz plates; by sliding these over each other, their aggregate thickness is increased or diminished until both halves of the disk, as seen through the doubly-refracting prism or analyzer in the eye-piece, appear of one color. This occurs when the thickness of the quartz plates is such as to exactly compensate for the liquid in the tube. A vernier is provided by which the position of the wedge-shaped quartz plates can be read off, and this is graduated so as to show the rotatory power of the liquid. By using (in the saccharimeter) definite weights of sugar and water for the solution, the readings are made to correspond to percentages. There are several refinements, omitted in this description; and the different types of polariscope present several variations. The above gives an idea of the leading features of construction. The P. is applied sometimes in medical practice to determine the percentage of sugar in diabetic urine.

POLAR'ITY: the having two poles opposite. The n. and s. poles of the earth's axis are familiar terms; and so are the derived terms of the n. and s. poles of a Magnet (q.v.). A right-handed and left-handed corkscrew, or helix, also are well known. The distinction between the members of any of these pairs leads us to the consideration of P., which it is difficult to define except by illustrations. In the case of the helix, it is the difference between right-handed and left-handed; not as in a magnet, the difference between the two ends. If we look closely into the question, we find that it is impossible to define the term 'right-handed rotation' in the abstract. We may define it as being the same as that of the hands of a watch, or that of the apparent motion of the celestial bodies about us *in this northern hemisphere;* but to a person at the equator, or to one who had never seen a watch, such comparisons would be without meaning. In fact, it is impossible to give a definition of even such a simple term as *right* (*hand*), *east*, *down*, etc., independent of reference to the motion or position of some external object. But there is, in many cases, an important scientific reality underlying, perhaps causing these difficulties. To a spectator looking down upon the n. pole of the earth, the axial rotation would appear to be left-handed, or opposite to that of the hands of a watch; while at the s. pole the appearance is the reverse. In fact, as motion in a horizontal straight line appears to be from right to left, or from left to right, according to the side on which the spectator stands; so motion in a curve appears to be right-handed or left-handed, according to the side of its plane from which it is looked at. And this is now known to be the cause of the difference of poles in a magnet; the hypothesis of two magnetic fluids is dismissed, and Ampère's explanation, that in a magnet currents of electricity revolve round each particle in planes perpendicular to the direction of magnetization, at once accounts for the dissimilarity of the poles. Such a figure as this gives a clear idea of the subject. A little electric current, such as that in the figure, in which positive electricity passes in the direction indicated by the arrow-head, acts on external bodies exactly as a small magnet would whose axis is, as in the cut, perpendicular to its plane, the arrow-head representing the *north* pole; that is, the pole which turns toward the *South*. Again, an electric current passing in a straight wire would at first sight appear altogether independent of polarity; yet it is found that such a current moving in the *straight* line in the cut, in the direction of the arrow-head, tends to make the *north* pole of a magnet rotate round it in the direction indicated by the arrow-head in the circle. Again, there are certain crystals, which, when heated, become electric. One end of a prism of tourmaline, for instance, takes positive, the other negative electricity. Also certain crystals of quartz cause a ray of polarized light, which passes along their axis, to rotate right-handedly; others left-handedly. The difference in these cases is due to molecular arrangement, other effects of which are easily seen in the tourmaline, in the dissymmetry of the two terminals of the prism, and, in quartz, in the position of certain small faces of the crystal, so that a preliminary inspection enables us to predict the direction of the effect to be obtained from any particular specimen. The term has various other applications, among the least defensible of which is that to light: see POLARIZATION OF LIGHT.



POLARIZATION OF LIGHT: change produced on rays of light by the action of certain media through which they pass, or by the action of certain surfaces which reflect them, so that the rays come to be no longer uniform, but have different properties in different directions. A ray of light from the sun or a lamp, which has not been reflected or refracted in its course to the eye, possesses no properties by which one *side* of it can be distinguished from another; if, e.g., it be divided into two by a colorless doubly-refracting crystal, such as Iceland spar, these two rays will be of apparently equal intensity in whatever position the crystal be placed (see REFRACTION, DOUBLE). But if the ray has been reflected from a surface of glass or water, it is found that in general the intensities of the two rays into which it is divided by the doubly-refracting crystal are not only unequal, but dependent on the position of the crystal with reference to the plane in which the light was previously refracted or reflected. This is conclusive proof that the light has undergone some change by reflection or refraction, so that it is no longer the same all round, but possesses *sides* (in the language of Newton), or (in modern phraseology) is *polarized.* Perhaps the most complete illustration of this very important fact is found by using two doubly-refracting bodies—two small crystals of Iceland spar, e.g.—and pasting on a side of one of them a slip of paper with a pin-hole in it. Looking through this crystal, the covered side being turned toward a bright body, we see two images of the pin-hole, *equally* bright. Look at these through the second crystal, each is in general doubled; we see four images of the pin-hole, but these are generally *unequal* in brightness; and by turning either of the crystals round the line of sight as an axis, we find that there are positions, at right angles to each other, in which only *two* images are visible. If we turn further, the lost images appear faint at first, and gradually become brighter, while the others become fainter in proportion; till, when we have completed a quarter of a revolution, the new images alone remain, the others having disappeared. From this it follows that each of the rays into which a single beam of light is decomposed by double refraction possesses *sides,* or is polarized; and to such an extent as to be incapable of being again doubly refracted in certain positions of the second crystal. By taking advantage of the difference of the refractive indices (see REFRACTION) of the two rays produced by Iceland spar, and the close agreement of one of them with that of Canada balsam, Nicol constructed his 'prism,' one of the most useful pieces of polarizing apparatus. It consists of two pieces of Iceland spar cemented with Canada balsam, and *allows only one of the two rays produced by double refraction to pass through.* When we look at a flame through two Nicol's prisms in succession, we find that the amount of light transmitted depends on their relative position. If they are *similarly* placed, we have the maximum amount—viz., half the incident light; if they are *crossed,* i.e., if one be made to rotate through a right angle from the position last mentioned, *no* light, not even the most powerful sunlight, can pass through the transparent combination. There are certain doubly-refracting bodies, e.g., tourmaline, iodosulphate of quinine, etc., which by absorption stifle one of the two rays into which they divide a beam of light; and which act therefore precisely as Nicol's prism does. But they have the great disadvantage of *coloring* the transmitted light very strongly; and this renders them unfit for the study of the gorgeous phenomena of color (perhaps the grandest displays in optics) produced by polarized light. But for the verification of the facts to which we now proceed, a tourmaline or a Nicol's prism will do equally well, and will be called the analyzer. And first as to the reflection of light, a cause of polarization first detected by Malus. If we examine by the analyzer light reflected from water, unsilvered glass, polished or varnished wood, jet, etc., we find that it is more or less completely polarized; but that there is a particular angle for each substance, at which if light be reflected (see REFLECTION) from its surface it is completely polarized; that is, can be completely stopped by the analyzer in certain positions, just as a ray which has passed through a Nicol's prism. It was discovered by Brewster that this angle, called the *polarizing angle*, has its tangent equal to the index of refraction of the reflecting body: or, in another form, the reflected light from a surface of glass, water, etc., is completely polarized when its direction is perpendicular to that of the corresponding refracted ray. The light reflected from the second surface of a glass plate is also completely polarized at the same angle; and one of the most useful polarizers which can be made is a pile of thin glass plates, from the surfaces of which light is reflected at the proper angle, which is for ordinary window-glass about 54°. The light which passes through the glass plates is partially polarized, and its polarization is more nearly complete the greater the number of plates employed. And it appears that these rays are polarized in planes perpendicular to each other—i.e., that the analyzer which extinguishes the reflected ray has to be turned through 90° to extinguish the refracted ray.

In order that we may arrive at some ideas as to the nature of polarization, we must consider on the basis of the Undulatory Theory of Light (q.v.) *how* a ray of light can have sides. If we take, for a comparison, waves of sound, on the theory that in them (see SOUND) the particles of air move forward and back in the line in which the sound travels, we see that a beam of sound cannot possibly have sides, since the motions of the particles of air in it are precisely the same from whatever side we consider them. Next take waves in water, where we see the water rising and falling as the undulation (*not* the water) travels uniformly onward in a horizontal direction; and this at once gives the required analogy. So far as phenomena of Interference (q.v.; see also DIFFRACTION) are concerned, waves, whether in air or in water, present them, so that they show us merely that light depends on undulations, but not the kind of undulation. But when, from the facts of polarization, we find that a ray of light can have sides, we see that the vibrations of the luminiferous medium must be *transverse to the direction of the ray*. Common light, then, consists of vibrations which take place indifferently and in succession in all directions transverse to that of the ray; while light completely polarized has its vibrations limited to a *particular* transverse direction. A Nicol's prism allows no light to pass through it except that which vibrates in a particular transverse direction, depending on the position of the axes of the pieces of Iceland spar of which it is made. Light which has passed through one Nicol's prism is sifted so as to contain none but such transverse vibrations, and will of course pass freely through a second prism, or be completely or partially stopped by it; according as the two prisms are similarly situated, or turned so that the directions of the vibrations that they can transmit are inclined at right angles, or at any other angle.

It is not yet settled what the direction of these vibrations is in any particular case; whether they take place *in*, or *perpendicular to*, the plane of polarization; and the point is extremely important in the theory of the subject, though not to the explanation of the ordinary experimental results. To explain the nature of this difficulty, we merely mention the simple case of polarization by reflection at a glass plate. Do the vibrations of the reflected ray take place *perpendicular to* the plane of reflection (i.e., parallel to the reflecting surface), or do they take place *in* the plane of reflection? Some high authorities are in favor of the latter hypothesis, but the general opinion of scientific men at present unquestionably leans to the former. Many delicate experiments have been made to decide the question, but their results have been irreconcilable with each other. From the results above arrived at, it is evident that the oscillations, or vibrations of the luminiferous medium, of which light consists, are similar to those of the bob of a Pendulum (q.v.), the ray in this case being supposed to proceed vertically downward. Polarized light consists of vibrations analogous to those of the ordinary pendulum, forward and backward in a line. But we have seen that any motion of the pendulum may be compounded of two such motions in planes perpendicular to each other. This is analogous to the decomposition of common light by a doubly-refracting crystal into two rays polarized at right angles. But we find in nature, and can produce artificially, motions of the luminiferous medium resembling exactly the elliptic, and circular, motions of the (conical) pendulum. They occur in nature in all cases of reflection from metallic surfaces, also from the surfaces of highly refractive bodies, such as diamond, etc. The easiest artificial method of procuring them is to allow polarized light to pass through a thin plate of a doubly-refracting crystal, such as a film of mica. Thus, if OA be the direction of vibration of the polarized light, the ray moving perpendicularly to the paper, O*a*, O*b*, the directions (at right angles to each other) of vibration of the two rays into which it is divided by the mica, we have only to let fall from A perpendiculars on O*a* and O*b* to determine the extent of the resolved vibrations in these directions. Now if the two rays moved equally rapidly through the mica, they would simply recombine on leaving it into a single plane polarized ray, whose vibrations would be represented by OA as before. But, in general, one of the rays is retarded more than the other, and the combination of two such oscillations is seen by geometrical considerations to give an ellipse whose centre is at O, and which touches each side of the rectangle of which A*a* and A*b* are half sides. The limiting forms of these ellipses are, of course, the diagonals of the rectangle; so that there are two cases for the light remaining plane polarized after passing through the mica, for an infinite number in which it will be elliptically polarized. Also the difference of retardation of the two rays may be such as to correspond to a description of these ellipses either right-handedly or the opposite. In particular cases the ellipse may be a circle; then it is obvious that the rectangle must become a square, that the directions of vibration of the two rays in the mica must be equally inclined to that of the original polarized ray, and that one ray must be retarded an odd number of quarter oscillations more than the other. If it be 1, 5, 9, etc., quarter oscillations, the rotation is in one direction; if 3, 7, 11, etc., it is in the opposite. Circularly polarized light cannot be distinguished by the eye, even with the help of a Nicol's prism, from common light; but by interposition of a thin plate of a doubly-refracting crystal, phenomena are produced which common light cannot give. Before leaving this part of the subject, it is to be remarked that the composition of two equal and opposite circular vibrations produces a plane vibration, whose plane depends on the simultaneous positions of the revolving bodies in their circular orbits. Hence a plane polarized ray may always be considered as made up of two circularly polarized rays, and if these pass through a medium which retards one more than the other, the plane of polarization of their resultant, when they leave the medium, will in general not be the same as that of the incident ray. In other words, the plane of polarization will have been caused to rotate through a certain angle proportional to the difference of retardation of its circular components. This is the explanation of what Biot called *Rotatory Polarization* in quartz, turpentine, sugar, etc., and of the rotation of the plane of polarization discovered by Faraday when a polarized ray passes through a transparent body under the action of a magnet.

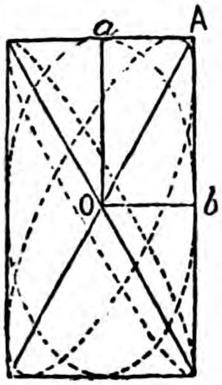


Fig. 1.

In the first of these cases, the retardation is due to molecular heterogeneity; in the second, it depends on molecular motions produced by the magnet. The effect is greater in each case the more refrangible the rays; therefore, when the light which has passed through the medium is examined with an analyzer, the successive colors of the spectrum are cut off each at a different angle, and the observed tint is that compounded of those which remain. The Saccharimeter (q.v.), for the determination of sugar in a liquid, is an application of the first case; the second has not as yet been applied to any practical purpose, but it has given most valuable information as to the ultimate nature of magnetism.

When polarized light passes through a slice of any uniaxal double-refracting crystal, nearly in the direction of its axis, it is obvious that the difference of retardation of the two rays into which it is divided will depend only on (1) their refrangibility, (2) their inclination to the axis of the crystal. Hence, if we suppose the light homogeneous, the effects of interference, and subsequent application of the analyzer, must be to produce appearances of bright and dark spaces, symmetrically disposed round the axis; that is, a series of concentric circular rings. The superposition of the separate sets of rings, for each color of the spectrum, produces the appearance actually observed; a series of colored rings, like those known as Newton's Rings, due to Interference (q.v.). Besides these, however, there is a dark or bright cross, consisting of two black or white bands, intersecting each other in the common centre of the rings. The dark bands are due to the absolute stoppage by polarizer or analyzer, when placed in positions 90° from symmetry, of all light whose vibrations are executed in the principal planes of the polarizer and analyzer. A similar explanation applies to any other case. The system of colored rings thus produced is one of the most splendid results of optical combinations; and may be seen by any one by the help of such simple apparatus as two fragments of window-glass and a piece of clear ice from the surface of a pond. In undisturbed freezing, the axis of the ice crystal is perpendicular to the surface of the water, and the cake of ice is therefore, as it were, cut for our purpose. If light be reflected at an angle of about 54° from the first

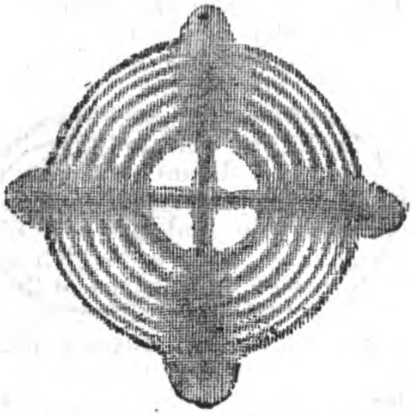


Fig. 2.—Uniaxal Crystal ; Black Cross.

piece of glass, pass perpendicularly through the ice, and be again reflected (at 54°) from the second piece of glass, the phenomena above described, and rudely represented in the annexed cuts, will be at once seen, the appearances varying with the relative position of the planes in which the reflections take place from the pieces of glass. If these planes be at right angles to each other, we have the black cross as in the first figure; if parallel, the white cross as in the second.

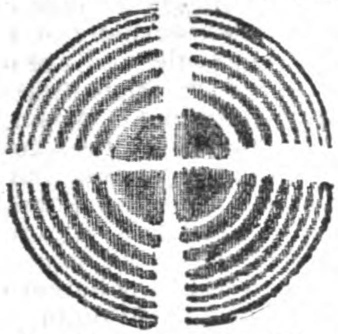


Fig. 3.—Uniaxal Crystal; White Cross.

If, instead of a uniaxal crystal, a biaxal crystal, e.g., nitre or arragonite, be employed, the system of colored rings and dark brushes is more complex; symmetry now requiring their arrangement about the *two* optic axes. The general appearance of the rings and brushes depends now not only on the relative position of the polarizer and analyzer, but also on the position of the crystal (which is no longer symmetrical about an axis) with reference to these planes. The two following figures illustrate the nature of the change due to an alteration of the position of the crystal, the polarizer and analyzer being fixed in planes at right angles to each other.

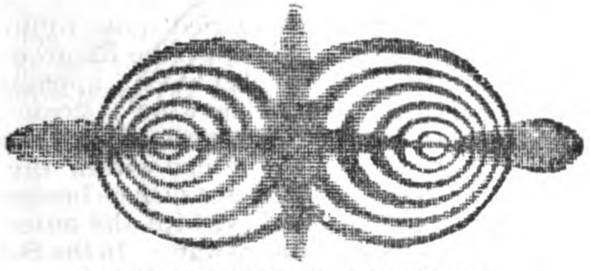


Fig. 4.—Biaxal Crystal; Black Cross.

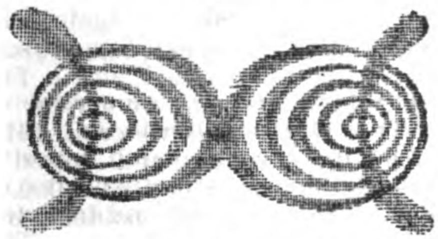


Fig. 5.—Biaxal Crystal; Black Cross changed to hyperbolas by rotating the crystal.

By employing circularly or elliptically polarized light, these appearances may be still further varied.

Every doubly-refracting body produces a change on polarized light which passes through it. Hence the application of the polarizer and analyzer (usually glass mirrors, or Nicol's prisms) to the microscope is often of very great use in detecting crystalline, and other structural peculiarities. Solid bodies, e.g., glass, which are singly refractive, become doubly refractive when strained either by external forces or by unequal heating. A permanent state of strain is produced in glass when it is cooled quickly. All these phenomena are beautifully exhibited by polarized light. Again, the application of polarized light is sometimes of great importance in qualitative analysis, where only an exceedingly small quantity of a substance is procurable for examination, by enabling the chemist to determine whether a minute crystal is doubly refractive or not.

A practical application of a polarizing prism may be mentioned. In salmon spearing it is often exceedingly difficult to see the fish at the bottom of the stream, on account of the glare of light reflected from the surface. But as this light is always partially, sometimes wholly polarized, a great part of it may be arrested by the analyzer held in a proper azimuth; while the light escaping from the water will suffer little loss.

The light of the sky, being mainly reflected light, is of course partially polarized. The investigation of this subject has been most ably conducted by Brewster (*Trans. R. S. E.*, 1862-3).

POLDER, n. *pŏl'dėr* [Dut.]: in the topography of the Netherlands, land below the level of the sea or nearest river, which, originally a morass or lake, has been drained and brought under cultivation. An embankment, forming a canal of sufficient height to command a run toward the sea or river, is made, and when carried quite round, as in the case of the Haarlem Lake, it is called the *Ringvaart*. At one or more points on the embankment apparatus for lifting water is placed, and worked by wind or steam-power. If the lake deepens toward the centre, several embankments and canals are necessary, the one within the other, formed at different levels as the water-surface becomes lessened, a connection being maintained with the outer canal, which secures a run for the drainage water. In the Schermer polder, N. Holland, are four canal levels, the land between forming long parallelograms. The water from the inner space is lifted into the first canal; that again, with the drainage of the second section, is thrown into the second, and so on until the outer canal is reached, and a fall obtained. The Netherlands polders are very numerous. The Beemster, a rich district of N. Holland, water till 1612, is crossed at right angles by fine avenues, and dotted with farmhouses and orchards, and has a pop. of 5,000. The Zype, Schermer, and Purmer are fertile polders, but the most important is the drained Haarlem Lake (q.v.). The land reclaimed amounted to 46,000 acres, and now maintains a pop. of 14,000. The soil is in some places sandy, in some loamy, elsewhere clay or peat, and differs much in fertility, some parts being positively barren. The chief products are grain, cattle, butter, cheese, seeds, flax, colza. The total outlay on the enterprise of draining was $5,248,800; but as the ground reclaimed sold for an aggregate of $3,790,800, the actual cost was only $1,458,000. On the reclaimed area are four or five villages, and seven or eight churches. Several extensive tracts of land have been recently reclaimed from the Ij, and formed into valuable polders.—See DIKE.

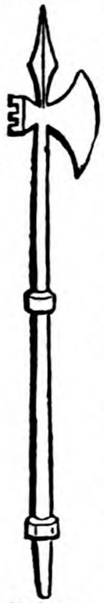
POLE, n. *pōl* [AS. *pal*, a pole; L. *pālus*, a pole: Sw. *pale*, a stake: Ger. *pfahl:* W. *pawl*, a pole]: a long, slender piece of wood; a long staff; a measure of length, 16½ feet or ¼ chain; in *land-measure*, 30¼ square yards; a mast. BARE POLES, state of a vessel having all the sails closely furled or down: V. to furnish with poles. POL'ING, imp. POLED, pp. *pōld.*

POLE, n. *pōl:* a native of Poland.

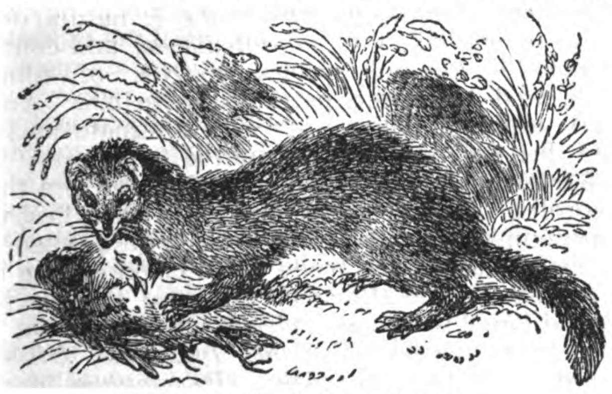
POLE, n. *pōl*, plu. POLES, *pōlz* [F. *pôle*—from L. *polus*, the end of an axis: Gr. *polos*, a pivot on which anything turns—from *pelein*, to be in motion: It. *polo*]: the extremities of the earth's axis; the extreme points of the axis on which the celestial sphere revolves; in *geom.* and *astron.*, the extremities of an axis of rotation of a sphere or spheroid; in *spherics*, the extremities of the straight line perpendicular to the plane of the circle, and passing through its centre; the two points in a magnet in which chiefly appears the concentration of its attractive or repulsive energy. POLES OF THE EARTH, the two points in which the axis of the earth meets its surface (see POLES, in *geog.*). POLES OF THE HEAVENS, or CELESTIAL POLES (see POLES, in *astron.*). POLES OF THE HORIZON, the zenith and the nadir (see POLES, below). POLES OF THE MERIDIAN, the points of the horizon due east and west (see POLES, below). MAGNETIC POLES, the two points on the earth, near the poles, at which the dipping-needle is vertical, or the magnetic intensity greatest.

POLE, *pōl*, Cardinal REGINALD: 1500, Mar. 3—1558, Nov. 18; b. Stourton Castle, Staffordshire, England; son of Sir Richard P., Lord Montacute, by Margaret, Countess of Salisbury, daughter of the Duke of Clarence, bro. of Edward IV. His early education was received from the Carthusians at Sheen, whence, being liberally provided for by the king, his relative, he passed to Magdalen College, Oxford, and having received deacon's orders, was advanced to several valuable preferments, through the favor of Henry VIII. For further study, he went to the Univ. of Paris, and thence to Padua, where he formed the friendship of a distinguished group of scholars and friends. In 1525 he returned to England, where the highest ecclesiastical dignities awaited his acceptance. But about this time Henry had resolved on the divorce from his queen Catharine, and P. not only withheld his assistance from the project, but provoked the undying resentment of the king by his well-known treatise, *De Unitate Ecclesiasticâ*. His preferments and pension were withdrawn, and preparations were made for his impeachment. This, and probably still harsher measures, he evaded by withdrawing from England. The king's resentment fell instead on his elder brother, and on his aged mother, the Countess of Salisbury. During the rest of Henry's reign, P. remained in exile. The pope, for the maintenance of whose authority, in the cause of the injured Catharine, P. was regarded as a martyr, treated him with distinguished favor, and elevated him to the cardinalate. He was employed in many affairs of highest importance, being sent as legate 1537 to France and the Low Countries, from both which states Henry VIII. in vain demanded his extradition. He was active also in the discussions on the Interim; and when the Council of Trent was opened, he was appointed one of the three legate-presidents who acted in the name of the pope, Paul III. (q.v.). On this pontiff's death 1549, P. was almost elected to succeed. For some time after Paul's death, he resided chiefly in a monastery near Verona, until the accession of Mary called him back to active life, as the main instrument of the reconciliation of England with the papacy. 1554, Nov. 24, P. solemnly entered London as legate and plenipotentiary of the Roman see, possessing in an equal degree the confidence of the queen. In his arduous charge, he acquitted himself with prudence, and (as is asserted by some) with singular moderation for those times. In the religious or politico-religious severities which marked the later history of Mary's reign, it is asserted by some that P. had no share; others hold P. as Mary's chief adviser equally guilty with her. He was created Abp. of Canterbury 1556, and Chancellor of the universities of Oxford and Cambridge. The new pope, Paul IV., who was personally unfriendly to P., removed him from his legateship and charged him with heresy; and under this shadow P. died, less than 24 hours after the death of the queen. He was author of treatises on the authority of the Roman pontiff and the Reformation of England, and of very many letters, of great interest and importance for the history of the time.

POLEAX, n., or **POLEAXE**, n. *pŏl'ăks* [Dut. *bollen*, to fell, to knock down—from *polle*, *pol*, or *bol*, the head, and *ax* (see under POLL 1)]: ax for knocking one on the *poll* or head, now used in slaughtering cattle: an ax or hatchet with a long pole or handle. There were many varieties of this arm, passing from a great hand-ax to an ax-headed spear or halbert, several of the longer sorts bearing but little resemblance to an ax. In *nav.*, a boarding-hatchet used for boarding or resisting boarders—a hatchet with handle about 15 inches long, and a sharp point bending downward at the back opposite the blade.


Poleax.

POLECAT, n. *pōl'kăt* [Dut. *pool-kat*, a polecat—a supposed corruption of *foul-cat:* OF. *pulent*, stinking], or FITCHET (*Mustela putorius*, or *Putorius fœtidus*): quadruped of the Weasel family (*Mustelidæ*), referred usually to the same genus with the weasel, stoat, or ermine, etc. It is the largest Brit. species of the genus. The length of the head and body is about 18 inches, length of tail more than five inches, the form stouter than that of the weasel or of the ermine. Its color is a deep blackish-brown; the head, tail, and feet almost black, under parts yellowish, ears edged with white, and a whitish space round the muzzle. The hair is of two kinds—a short woolly fur, pale yellow, or somewhat tawny; and long shining hairs of rich black, or brownish-black, most numerous on the darkest parts. The nose is sharp, the ears short and round, the tail covered with longish hair. There is a pouch or follicle under the tail, which exudes a yellowish, creamy substance of a very fetid odor; and this odor is particularly strong when the animal is irritated or alarmed. Hence, apparently, its name *Foumart* (*Foul Marten*), with various provincial modifications, e.g., *Fulimart*, *Thoumart*, etc. The origin of the names P. and Fitchet is much more uncertain. Skeat suggests that it may be *pool-cat*—i.e., cat living in a hole or burrow, since the Irish and Gael. *poll*, Cornish *pol*, mean a 'hole' or 'pit,' as well as a 'pool.' The P. was much


Polecat (*Mustela putorius*).

more common in Britain in former times than now, and is almost extirpated from some districts. It is extremely destructive in the poultry-yard, the abundance present there inviting it to drink blood and eat brains, which seem to be its favorite luxuries. The rabbit is followed by the P. into its burrow, and its ravages among poultry are partly compensated by its destruction of rats.—The taming of the P. is easy if begun early: it has been trained for taking rabbits.—The skin is sold under the name *Fitch*, and is used as a kind of fur, similar but much inferior to that of the Marten (q.v.). To artists, the hair of the *fitch* or *fitchet* is well known as that of which their best brushes are made; the hairs used for this purpose being the long hairs above noticed, which grow through the lighter-colored fur of the animal.—The Ferret (q.v.) is asserted to be a tamed albino variety of the polecat.—A dark-colored kind of ferret is commonly regarded as a cross between the P. and the ferret, and is sometimes called the *Polecat-ferret.* The P. breeds in May or June, making its nest in an old rabbit burrow or similar hole, and producing four, five, or six young.—In N. America, the term P. is applied to any of the various species of Skunk (q.v).

POLEMARCH, n. *pŏl'ĕ-mârk* [Gr. *polĕmos;* war; *archos,* chief, leader]: in *anc. Athens,* the third archon, who presided in the court in which the causes of the *metoikoi* or resident aliens were tried; a military officer, originally the military commander-in-chief.

POLEMIC, a. *pō-lĕm'ĭk,* or Polem'ical, a. *-ĭ-kăl* [Gr. *polem'ĭkos,* warlike—from *polĕmos,* a battle, war: It. *polemico:* F. *polémique*]: controversial; engaged in supporting an opinion or system in opposition to others; disputative. Polem'ic, n. a disputant. Polem'ically, ad. *-lĭ.* Polemics, n. plu. *pō-lĕm'ĭks,* the art or practice of disputation—applied to theology.

POLEMONIACEÆ, *pŏl-ē-mō-nĭ-ā'sē-ē:* natural order of exogenous plants, allied to *Convolvulaceæ,* and containing more than 100 known species, natives of temperate countries, and abundant particularly in n.w. America. They are mostly herbaceous, with alternate and often pinnated leaves; regular hermaphrodite flowers; 5-cleft calyx; 5-lobed corolla; 5 stamens, springing from the tube of the corolla; ovary free, surrounded with a fleshy disk; style surmounted by a 3-cleft stigma; fruit a capsule with 3 cells, and 3 valves; the seeds often enveloped in mucus which contains spiral threads. Some of the species are favorite garden flowers, as *Polemonium cœruleum, Cobœa scandens,* and species of *Phlox, Ipomopsis, Gilia,* etc. None are of value otherwise. *Polemonium cœruleum* is known in gardens as *Jacob's Ladder;* its stamens project from the corolla. *Greek Valerian* (*P. reptans*) is but 6–10 in. high, with flowers only ½ in. wide. It is not supposed to be really the *polemonium* of the ancients, to which great medicinal virtues were ascribed by them.

POLEMOSCOPE, n. *pō-lĕm'ō-skōp* [Gr. *polĕmos*, war; *skopĕō*, I see]: a perspective glass contrived for seeing objects that do not lie directly before the eye; an instrument for seeing without being seen, so named by the inventor, under the idea that the instrument might be useful in time of war.

POLENTA, n. *pō-lĕn'tă* [It. *polenta*, polenta—from L. *polenta*, pearl-barley]: kind of pudding made from Semolina (q.v.), or Indian corn-meal, etc.; used as food by all classes in Italy. By the poorer classes, maize is universally used. The material is mixed with milk or water, and boiled until thick enough to pour into a dish, in which it becomes as firm as a thick jelly. Cheese is grated over it. other condiments are added according to taste, and it is cut out in slices, and either eaten at once, or sometimes the slices are lightly fried in oil or butter. P. prepared from Semolina is much more expensive; many ingredients are added to suit the taste.

POLES, *pōlz:* in *geography*, the two extremities of the axis round which the earth revolves; situated therefore one on the n., the other on the s. side of the equator, and equidistant from all parts of it; or in lat. 90° n. and lat. 90° s. They are called the n. and s. poles of the earth: the n. pole is the one to which the United States is nearest. In *astronomy*, the poles, for distinction frequently denominated 'celestial poles,' are those two points, north and south, in the heavens to which the earth's axis is directed, and around which the heavens seem to revolve. The celestial poles are valuable points of reference to astronomers and geographers, so that the determination of their position in the heavens is of the utmost importance. Unfortunately, no stars mark their exact situation (see POLE-STAR)—though there is a minute telescopic star only a few seconds from the n. pole, which may be employed instead of it in rough observations: therefore it is necessary to adopt some means for discovering its precise position. This is effected in the following manner: A bright star (generally the pole-star) is selected, and its position in its upper and its lower *Culminations* (q.v.) is accurately noted; the point midway between these two positions of the star is the pole of the heavens. The observation of the star's two positions must be corrected for refraction, and it is for this reason that the pole-star is selected, since the effect of refraction is much the same in both positions of the star.—The term 'poles' has also a wider application as denoting the extremities of a line passing through the centre of a great circle perpendicular to its plane; e.g., the poles of the horizon (viz., the zenith and nadir), the poles of the ecliptic, the poles of a meridian; and in the same sense, the terrestrial and celestial poles are spoken of as poles of the equator and equinoctial respectively.—In *geometry*, pole is used in a very indefinite sense. In *physics*, Poles are those points of a body at which its attractive or repulsive energy is concentrated: see POLARITY: MAGNETISM, TERRESTRIAL.

POLE-STAR, *pōl'stâr*, or POLARIS, *pō-lā'rĭs:* nearest conspicuous star to the n. pole of the celestial equator. The star now known as the 'pole-star' is the star α (Alpha) in the constellation Ursa Minor. Examining attentively the general movement of the stars throughout a clear winter's night, we observe that they describe circles largest at the equator, and becoming smaller and smaller toward a certain point (the n. pole of the celestial equator). close to which is the star above mentioned. This 'pole-star' is, however, a little less than 1½° from the pole, and has a small but sensible motion round it: see POLES. Because of the motion of the pole of the celestial equator round that of the ecliptic (see PRECESSION OF THE EQUINOXES), this star will in course of time (about A.D. 2100) approach to within 28′ from the n. pole, and will then recede from it. At the time of Hipparchus (B.C. 156) it was 12°, and 1785, 2° 2′ from the n. pole. Its place can easily be found in the heavens, for a line drawn between the stars α and β (called the two *pointers*, from this peculiarity) of the constellation Ursa Major, or the Great Bear, and produced northward about 4½ times its own length, will almost touch the pole-star. 2,000 years ago the star β of Ursa Minor was the pole-star; and about 2,300 years before the Christian era, the star α in the constellation of the Dragon was not more than 10′ from the n. pole; and 12,000 years after the present time, the bright star Vega in Lyra will be within 5° of it.

The s. pole of the celestial equator is not similarly marked by the near neighborhood of a bright star, the only star deserving the name of the s. pole-star being of the sixth or least visible magnitude.

POLIAN'THES: see TUBEROSE.

POLICE, n. *pŏ-lēs'* [F. *police*, police: It. *polizia;* Sp. *policia*, police, cleanliness—from Gr. *polĭtei'a*, the state, system of government—from *polis*, a city]: that part of governmental superintendence which relates to internal regulations of a town, city, or state; a body of civil officers employed to enforce the laws respecting good order, cleanliness, etc. (see below). **POLICED**, a. *pŏ-lēst'*, regulated under a system of laws administered by the police. **POLICE OFFICER**, or **POLICE'MAN**, one of the ordinary police; a constable. **POLICE MAGISTRATE**, a stipendiary judge who tries petty cases preferred by the police. **POLICE STATION**, the house to which offenders are taken in the first instance; the headquarters of the police, or of a section of them.

POLICE: civil force charged with maintaining the peace, preventing and detecting crime, and enforcing the laws. Though the word policeman is now, especially in towns, a household word, the legal denomination is that of constable.

The duties of constables or P. officers are exceedingly multifarious, and the officers receive printed regulations to guide them in the proper discharge of such duties. They have important duties in reference to the apprehension of offenders, and their powers are necessarily larger than those of private individuals. Wherever a person is seen in the act of committing a felony, it is the duty of every one, not merely of constables, to apprehend him or her without any warrant, for no warrant is needed. In case of a riot, anybody may arrest the rioter. P. officers are bound to arrest violators of municipal ordinances, e.g., unlicensed venders (where the ordinances require a license), mendicants, etc., trading without a license; and vagrants who are offending against the Vagrant Acts. The powers of P. officers are much greater than those of individuals with reference to crimes after they are committed. Thus, where the officer has not seen the offense committed, but is merely told of the fact, and he has reason to believe it, he is entitled to arrest the party charged without any warrant; he must, however, in such cases act only on reasonable suspicion. He is not justified, e.g., in apprehending a person as a receiver of stolen goods on the mere assertion of the principal felon; nor is he justified in taking a person into custody for a mere assault without a warrant, unless he himself was present at the time the assault was committed, or reasonably apprehends a renewal of it. If a P. officer have reasonable suspicion that a man has committed a felony, he may apprehend him; and so may a private individual. The difference between the authority of the P. officer and the private person in this respect is, that the latter is justified only in case it turn out that a felony was in fact committed; but the officer may justify the arrest and detention whether a felony was committed or not. It is the duty of a P. officer to raise a hue and cry in search of a concealed or escaping felon, and all private individuals are bound to join in it, otherwise they may be indicted and fined. If the party arrested be in a house in hiding, the officer may demand admittance, and if he is refused, may then break open the doors; this is so in all cases where the party has committed treason or felony, or has dangerously wounded another. An officer lawfully arresting an offender may use necessary force, but may not strike except in self-defense. In cases where the P. officer is not authorized at common law or by some statute to arrest a party without a warrant, then he must produce a warrant signed by a justice of the peace, and show it to the party if it is demanded; and if the officer happens not to have the warrant in his pocket at the time, even though it is not asked for, it is an illegal arrest. When a party is arrested, it is the duty of the P. officer to take him without any unreasonable delay before a justice of the peace or other magistrate, and meanwhile lodge him in safe custody. The party arrested must not be treated with harshness beyond what is necessary for safe custody, and therefore it has been held that a P. officer has no right to handcuff a person whom he has apprehended on suspicion of felony, unless such person has attempted to escape, or it be necessary to prevent an escape. Nor has he in general a right to search a person apprehended, unless the latter conduct himself violently.

In the United States, each city or large village usually controls its own P. force, subject to the laws of its state; in the rural districts the functions of the P. force are supposed to be discharged by constables. The details of the P. system in the several cities of the Union differ more or less, but in all essential particulars the system is identical in all. In New York city the P. dept. consists of a P. board of 4 commissioners (named by the mayor), who have full control of the force. , The officers of the force are a supt., a chief inspector, 4 inspectors, captains, sergeants, and roundsmen: the body of the force consists of patrolmen: total strength of the force, 3,420 men. The number of precincts or P. subdivisions is 35, each having a station-house. There is a special squad of detectives, also a 'sanitary squad' to assist the board of health, and a squad of harbor police. The duty of the P. force is to preserve the peace, prevent crime, detect and arrest offenders, suppress riots, protect the rights of persons and property, remove nuisances in public streets and places, repress disorderly houses, arrest vagrants, enforce all laws for suppression of crime, observance of Sunday, etc. Admission to the force is regulated by the civil service law.

In England and Wales the P. force both municipal and rural is under control of the central govt., and the state contributes about half of the pay of the men, except in the 'city' of London, where the whole cost devolves on the corporations. The total strength of the P. in England and Wales (1890) was 37,957 men; proportion of policemen to pop. about 1:766; average cost per man, about $500. The total strength of the P. force of Ireland (Irish constabulary) is about 14,000 men, viz., 'Royal Irish Constabulary,' nearly 13,000 men, and 'Dublin Metropolitan P,' about 1,200; proportion of P. to the estimated pop. about 39 : 10,000. The Irish P. establishment costs about $7,500,000 a year: the force is a semi-military body; the men always go armed with sabre-bayonets, and are armed also with rifles and are drilled as soldiers.—The P. force of Scotland (Scottish constabulary) numbered (1888) 4,155 men; and its cost was about $1,890,000.

POLICE, MILITARY: term with two significations—1st, the organized body employed within an army to preserve civil order, as distinct from military discipline; 2d, a civil police with a military organization. The police of an army consists usually of steady intelligent soldiers, who act under the orders of the provost-marshal, and arrest all persons out of bounds, civilians not authorized to pass the lines, disorderly soldiers, etc.; they also attend to sanitary arrangements. As in all military matters, the police of an army possesses summary powers, and a sentence of the provost-marshal is carried out immediately after it is pronounced.

Of civil police with military organization, specimens are—the Gendarmerie (q.v.) of France, the Sbirri of Italy, and in an eminent degree the Irish constabulary. In some great cities of the United States, the police, without forming any part in the military force, are organized and governed under military rules.

POLICY, n. *pŏl'ĭ-sĭ* [Gr. *politei'ă*, the state, system of government—from *polis*, a city]: the art, manner, or system of conducting public affairs professed by a party in the state; prudence or wisdom in rulers or individuals in the management of affairs; dexterity or art in management; management of affairs: prudence. In *Scot.*, extensive pleasure-grounds around a mansion-house, originally the tract or district within which authority was exercised. **POLICIED**, a. *pŏl'ĭ-sĭd*, placed under a regular administration.

POLICY, n. *pŏl'ĭ-sĭ* [Sp. *poliza*, a policy: It. *polizza*, a note or schedule: violent corruption of the L. *polyp'tycha*, account-books, registers of taxes; Gr. *polup'tuchos*, that has many folds—from *polus*, many, and *ptux*, a leaf]: contract of insurance; written contract by which a company engage to pay a certain sum in the event of death, fire, or loss, on the condition of receiving a fixed sum or percentage on the amount of the risk, or certain annual payments—such percentage being termed the *premium* (see INSURANCE). **POLICY-HOLDER**, one to whom a policy of insurance has been granted.

POLIGNAC, *po-lēn-yâk'*: ancient French family, named from a castle said to have been built in the 5th c., on a rock of the Cevennes, near Puy-en-Velay, dept. of Haute-Loire, on the site of a Roman temple dedicated to Apollo, whence—according to certain rather credulous genealogists—the castle was originally called *Apollianique*, of which P. is affirmed to be only a later corruption.—The first of the Polignacs who acquired celebrity was Cardinal Melchior de P. (1661–1742), b. Puy-en-Velay, younger son of Armand, 16th Marquis de P. He was educated at Paris for an ecclesiastical career, and in the negotiations of Cardinal de Bouillon with Pope Alexander VIII., 1689, the young, but astute and insinuating abbé took a principal part. In 1695; he was sent to Poland as French ambassador, when John Sobieski was dying; and diplomatized and intrigued so cunningly in favor of Prince de Conti, that the latter was actually elected his successor. Events, however, frustrated this policy, and P. lost the royal favor. In 1702—after a stroke of his usual neat flattery—he was recalled to Versailles, and rose higher into favor than ever; was named *Auditeur de Rote* 1706, and was sent to Rome. He was appointed French plenipotentiary at the Congress of Utrecht 1712; and when Louis XIV. died, was at the top of his reputation and influence. During the regency of the Duke of Orleans, he took part in the conspiracy of Cellamare, and was banished to his abbey of Anchin. 1725–32 P. had the conduct of French affairs in Rome. He was made Abp. of Auch 1726; and on his return to France, spent the remainder of his days in literary repose. He had written, about 1700, *Anti-Lucretius*, semi-metrical refutation in Latin of the skepticism of Bayle (pub. 1745). P. succeeded Bossuet at the Académie Française 1704. See C. Faucher's *Histoire du Cardinal de Polignac* (2 vols. Paris, 1772), St. Simon's *Mémoires*, and D'Argenson's *Mémoires*.

The other members of the P. family who have a historical name at all are notorious rather than noteworthy. In the reign of Louis XVI., Tolande-Martine, Gabrielle de Polastron, Duchesse de P. (1749–1793), and her husband, Jules, Duc de P. (1817), were among the worst, but unhappily most favored advisers of Marie Antoinette. They obtained vast sums of the public money from their royal master and mistress; and were largely, if not mainly responsible for the frightful pecuniary extravagance of the court. The discovery of the famous *Libre Rouge* occasioned the exulting cry of Mirabeau: *Mille Écus à la Famille d'Assas pour avoir sauvé l'État; un Million à la Famille Polignac pour l'avoir perdu!* The Polignacs—knowing the deep hatred felt toward them by the French people—were the first of the *noblesse* to emigrate (1789, July 16). From Empress Catharine of Russia, the duke received an estate in the Ukraine, and did not return to France at the Restoration.—He left three sons and a daughter, of whom only one has become historical—Auguste Jules Armand Marie, Prince de P. (1780, May 14—1847, Mar. 29, b. Versailles). At the Restoration, he returned to France; became intimate with the Comte d'Artois, afterward Charles X.; showed ardent attachment to the Church of Rome—at least to its policy—and received from the pope, 1820, the title Prince; was appointed ambassador at the English court 1823; and 1829 became head of the last Bourbon ministry, in which capacity he promulgated the fatal ordonnances that called France to arms, and drove Charles X. from the throne. He then attempted to flee from the country, but was captured at Granville Aug. 15; was tried, and condemned to imprisonment for life in the castle of Ham, but was set at liberty by the amnesty 1836, Nov. 29. He then made his residence in England, but died at Paris.

POLISH, a. *pō'lĭsh:* of or from Poland or its people.

POLISH, n. *pŏl'ĭsh* [F. *polir*, to smooth; *polisssant*, smoothing: L. *polĭo*, I smooth]: a smooth glassy surface produced by friction or rubbing; artificial gloss; elegance of manners; refinement; substance used to impart a gloss (see DIAMOND: GRINDING: EMERY: PASTES: PUTTY-POWDER): V. to make smooth and glossy by rubbing or friction; to become smooth or glossy: to make elegant or polite; to refine. **POL'ISHING**, imp.: ADJ. making smooth or glossy: N. the act of making smooth or glossy; the refining of manners; smoothness; glossiness given by rubbing; a substance that polishes or is used in polishing. **POLISHED,** pp. *pŏl'ĭsht:* ADJ. smooth and glossy; refined; polite. **POL'ISHER,** n. *-ėr*, one who or that which polishes. **POLISHING-IRON,** a smoothing-iron; a bookbinder's tool. **POLISHING-PASTE,** a kind of blacking for harness and leather; a varnish for imparting a gloss to furniture. **POLISH-POWDER,** a preparation for brightening articles of metal. **TO POLISH OFF,** to finish completely, in allusion to the finishing of an article of furniture for use; to do thoroughly and for good. **POLISHING OF METALS,** removal of any tarnish or oxidation by means of some material which will chemically act upon it; for this purpose, sulphuric, hydrochloric, oxalic, and acetic acids are used to different metals, and in various states of dilution. Usually, it is necessary to remove the acid with clean water, and dry rapidly, to prevent re-oxidation; and then either friction with various polishing materials, or rubbing with a smooth hard surface or burnisher, brings out the lustre of the metal. **POLISHING OF STONE,** see STONE-CUTTING. **POLISHING-SLATE,** mineral used for polishing glass, marble, and metals; composed chiefly of silica, with a little alumina, lime, oxide of iron, and water; white, yellowish-white, or yellow: and of specific gravity about half that of water. It is found in Bohemia, Saxony, and Auvergne, and is supposed to be a volcanic product.

POLISH LANGUAGE AND LITERATURE: widely-spread branch of the Slavic Language and Literature (q.v); forming (according to Dobrowsky), with the Bohemian, the w. branch. The *Polish language* surpasses almost all other Slavonic tongues in euphony and flexibility, and is scarcely excelled by any language in brevity. It does not make use of the article, but has a most elaborate declensional system, comprising seven cases. The conjugation of the verb is equally elaborate, and enables a Pole to express transitions and delicate niceties in the conditions of time and gender quite unknown to the French, or German, or English verb. The Polish vocabulary also is uncommonly rich. The number of harsh consonants in the language, it must be admitted, is large, forming a marked distinction between it and its eastern sister, the Russian, but in pronunciation, these are so much softened that its euphony is preserved. It alone of all Slavic dialects, except the old Slavic church language, has two nasal sounds; one like the French *on*, the other like the French *in*. The letter *l* has a peculiarly broad snarling sound. After the introduction of Christianity, Latin, the language of the church, exercised a powerful influence on its structure and development, and subsequent to the 14th c., it adopted into its vocabulary numerous German words. In the 16th c., Polish, as a written language, rapidly attained such perfection that it supplanted even Latin itself, until then the language of the state and of the learned. The best Polish grammars are those of Mrongovius (3d ed., Danz. 1837), Bandtke (Breslau 1824), Muczkowski (Crac. 1845), and Booch-Arkossy (1866); the most comprehensive dictionary is that of Linde, after which rank those of Bandtke (2 vols. Breslau 1806), Mrongovius (Königsb. 1835), Trojanski (4 vols., Posen 1835–46), and Liebkind (1855).

The history of *Polish literature* is divisible into five clearly marked periods.—The *first* extends from a date antecedent to the introduction of Christianity to the close of the 15th c. Of pre-Christian Polish literature, nothing has survived but some popular songs and proverbs. Among the very oldest literary monuments is a hymn to the Virgin Mary, ascribed to St. Adalbert. The introduction of Christianity paved the way for a Latin literature more or less ecclesiastico-historical. Casimir III. (q.v.), surnamed the Great, did more than any other early Polish monarch for encouragement of literature, and, among other things, founded the Univ. of Cracow, which, from the beginning of the 15th c., long continued to be the centre of intellectual life and culture in Poland. To the 15th c. belong Jan Dluglosz (Lat. *Longinus*), author of an interesting and valuable *Historia Poloniæ*, in 13 books, and otherwise worthy of remembrance as an able diplomatist and philanthropist; also Jan Laski (1457–1531), Abp. of Gnesen, whose collection of the oldest Polish laws, *Commune Inclyti Poloniæ Regni Privilegium*, is of great historical importance. In 1490 the first printing-press in Poland was established at Cracow.

The *second* period of Polish literature comprises the 16th and first quarter of the 17th c., and is marked by the use of the Polish as a written language. The reigns of Sigismund I. and Sigismund II. Augustus, are regarded as the golden era of Polish literature, properly so called. The series of poets begins with Nikol. Rej (1515–1568), commonly called the *Father of Polish Poetry*, a native of Zoravno, in 'Little Russia,' and educated at Lemberg and Cracow. He spent his life at the court of the Sigismunds. His principal works, *Wizerunek Zywota Czlowieka Poczeiwego* (Crac. 1560) and *Apophthegmata* (Crac. 1568), are full of sharp wit and strong satire, and though the language is rough and unpolished, it is poetical. After Rej, the brothers Jan and Piotr Kochanowski hold highest rank. Szymonowicz, or Simonides (d. 1629), acquired by his Latin odes the name the 'Latin Pindar;' and his *Sielanki* ('Idylls,' new ed. Leip. 1837), modelled on those of Theocritus, exhibit a charming simplicity of style. Still more original. though scarcely so graceful, are the *Sielanki* (new ed., Leip. 1836) of his friend Zimorowicz (d. 1629). Sebastian Klonowicz, called *Acernus* (d. 1608), is notable as a satirist and descriptive poet. The Reformation, which rapidly made way in Poland, being tacitly approved by the rulers and magnates, gave powerful stimulus to the intellectual and spiritual activity of the nation—visible in translations of the Bible, hymn-books, and an important pulpit or sermon literature. Among historians of this period, most famous are the brothers Bielski; Lukas Górnicki (d. 1591), author of a history of the Polish crown (*Dzieje w Koronie Polskiéj*, Crac. 1637, Wars. 1804); Strzikowski (d. 1582), whose *Chronicle of Lithuania* (Königsb. 1582) is an admirable work; and Paprocki (d. 1614).

The *third* period of Polish literature, 1650–1750, is coincident with the rule of the Jesuits, who obtained a footing in Poland about 1566, through the influence of Cardinal Hosius, soon possessed themselves of the schools, and, on the whole, seriously checked the literary and religious growth of the nation. The most conspicuous poet of this retrogressive period is the Jesuit Kazimierz Sarbievski (1595–1640), who wrote only in Latin; others more or less noteworthy are Kochowski (d. about 1700); Tvardovski (d. about 1616); Opalinski (d. 1655); Chros'cinski, translator of Lucan; Morsztyn, translator of Corneille; and Elz'sbieta Druz'backa (d. 1760). Among historians of this period, are Starovolski (d. 1656), author of *Polonia, sive Status Regni Poloniæ Descriptio* (Wölfenbuttel 1656), and other works; Kojalowicz, Jesuit (d. 1677), and Kaspar Niesiecki, Jesuit (d. 1745), whose *Korona Polska* (4 vols. Lemb. 1728–43) is the most important work on Polish heraldry.

The *fourth* period, commencing with the middle of the 18th c., and extending into the first quarter of the 19th, owes its characteristics partly to the influence of the French literature of Louis XIV.'s time; partly to the liberal patronage of literature and science by King Stanislas Augustus, the princes Czartoryski, Jablonovski, and other magnates, and the educational reforms of Stanislas Konarski (1700–73). The good work begun by Konarski was carried on by Kopczyn'ski (1735–1817), who was the first to establish on a scientific basis the grammar of the Polish language in his *Grammatyka Norodova;* by Piramowicz (d. 1801); by Bohomolec, Jesuit, who translated a multitude of stage-pieces from the French; but above all, by Adam Stanislas Naruszewicz, accomplished translator of Tacitus; and Ignacy Krasicki (1735–1801), called the 'Polish Voltaire,' the centre of the whole Polish literature of his age, whose satires and fables are reckoned the first in his native language. As poets of this Renaissance period, occur the names of Trembecki, Cajetan Wegierski, Godebski, and Wezik. The most noted dramatist is Boguslavski (d. 1829), who wrote about 80 plays—the majority of which, under the title *Dziela Dramatzezne*, were published at Warsaw (9 vols. 1820).

The political storms that swept over Europe at the close of the 18th and the first years of the 19th c., did not quite destroy the new literary life that had burst into blossom under Stanislas Augustus. In 1801 the historian Tadeusz Czacki, Franciszck Dmochowski, and Bp. Jan Albertrandy founded at Warsaw the 'Soc. of the Friends of Knowledge,' which, especially under the auspices of the state-councilor Staszyc, bore good fruit till it was dissolved 1832, when its library of 50,000 vols. was carried off to St. Petersburg. At the same time, Jozef Maximilian Ossolinski, Hugo Kolontaj, and Stanislas Potocki, by word and writing exercised a mighty influence on the renovation of the national spirit.—The transition to this *newest* or *fifth* period was made by Karpinski (1745–1825), whose Songs and Idylls (4 vols., Warsaw 1804; new ed., Leip. 1836) live on the lips of the Polish people; by Chancellor Voronicz (1757–1829), richly imaginative poet and great orator; by Niemcewicz (1757–1841), statesman, soldier, and author of celebrity in his own land; and by the poet Kasimierz Brodzinski (1791–1835). At Wilna, which, after 1815, became the centre of Polish literary activity, and a rallying-point for all the enthusiastic spirits of the land, several young men united, with Adam Mickiewicz (b. 1798) at their head, in a crusade against the still dominant French style of literature. Some of his numerous and brilliant associates were Malczevski (1792–1826), whose best production is his epic-lyric narrative of Ukraine life, entitled *Marja;* Goszczynski (b. 1806; Poems, 3d ed., Breslau 1852); Bohdan Zaleski (b. 1802; *Poezye*, Pos. 1841, and later); Tomasz Padura (*Pienia*, Lemb. 1842); Odyniec (*Poezye*, Pos. 1833); Korsak (*Poezye*, Pos. 1833); Chodzko (*Poezye*, Petersb. 1829); Groza (*Poezye*, Wilna 1836); Lucyan Siemienski (b. 1809), excellent novelist and translator; Bielovski (b. 1806), lyric poet and translator; Gorecki, renowned for pungently sarcastic fables (*Bajki i Poezje nove*, appeared at Paris 1833); Garczynski (*Poezye*, Paris 1833); and Slowacki, most fertile of recent Polish poets. Most of these writers became either 'banished men,' or men who, while living, were forced to expatriate themselves. They belonged to the 'Polish Emigration,' whose headquarters was Paris. The most many-sided and prolific of modern Polish novelists is Jozef Ignacy Kraszevski, b.

Warsaw 1812. The new national tendency of Polish literature, which naturally first showed itself first in poetry, soon became visible in other departments also. Thus, Joachim Lelewel (b. 1786) rose to the first rank as a writer of Polish history, and a study of his works is absolutely indispensable to a knowledge of that subject; next to him (and later) in the same department stand Bandtke, Maciejovski, Count Raczynski, and Count Plater. Narbutt of Wilna wrote a very solid and comprehensive work on Lithuanian History (Wilna 1837 *et seq.*), and Lukaszewicz of Posen has furnished numerous important contributions to the history of the Reformation in Poland. A multitude of works more or less weighty have been devoted to a record of the revolution of 1830, chiefly by Polish emigrants. Into the departments of philosophy, theology, and physical science, Polish literature has entered but little.—The principal works on Polish literature are those of Muczkovski, Bentkovski, Ossolinski, Chodynicki, Lukaszewicz (Posen 1860), and the comprehensive history by Viszniewski. See also the history of Polish literature in German by Nitschmann (1882); Morfill's *Russia* (1880), and the same author's excellent *Slavonic Literature* (1883).

POLISTENA, *pō-lĭs-tē'nâ:* town of s. Italy, province of Reggio, Calabria. The village which occupied the site of the present town was totally destroyed by earthquake 1783. Pop. 7,000.

POLITE, a. *pō-līt'* [L. *polītus*, polished, refined—from *polĭo*, I smooth: It. *polito*]: refined or well-bred in manners; polished; courteous; obliging. POLITE'LY, ad. *-lĭ*. POLITE'NESS, n. *-nĕs*, good-breeding; refinement in manners; courtesy; obliging attentions. POLITE LITERATURE, those branches of knowledge or instruction, apart from art and science, which please the understanding and refine the taste. —SYN. of 'polite': polished; refined; genteel; elegant; courteous; well-bred; affable; obliging; civil; courtly; urbane.

POLITESSE, n. *pŏl'ĭ-tĕs'* [F. *politesse*—from It. *politez'za*, politeness, elegance]: over-acted politeness, used in contempt.

POLI'TIANUS (or POLI'TIAN), ANGELUS: see POLIZIANO, ANGELO.

POLITIC, a. *pŏl'ĭ-tĭk* [F. *politique*, political—from L. *poli'tĭcŭs;* Gr. *politĭkos*, of or belonging to civil polity or to the state—from *polis*, a city: It. *politico*, cunning, political]: wise, prudent, and discreet in the management of public affairs; well-devised, and adapted to promote the welfare of the state; judicious; artful; cunning; crafty. POLITICS, n. plu. *pŏl'ĭ-tĭks*, art or science of conducting the affairs of a kingdom (see below): system of management of public affairs adopted by a party: in a narrower sense, the contest of parties in a state for power in the management of its affairs. POLITICAL, a. *pō-lĭt'ĭ-kăl*, pertaining to the civil government of a state and its administration—derived from an office under government, or from some connection with it; treating of politics or government. POLIT'ICALLY, ad. -*lĭ*, in relation to the public administration; in a political manner. **POLITICIAN**, n. *pŏl'ĭ-tĭsh'ăn*, a man skilled in politics, or who devotes himself to them. **POL'ITICLY**, ad. -*tĭk-lĭ*, in a politic manner; artfully; cunningly. **POLITY**, n. *pŏl'ĭ-tĭ* [Gr. *politeia*, system of government]: the form or constitution of the civil government of a country; the general principles that regulate the conducting of public affairs.—SYN. of 'politic': prudent; wise; artful; cunning; discreet; sagacious; provident; wary.

POLIT'ICAL ECONOMY: science of public welfare, as that welfare is affected specially by governmental administrations in physical concerns—e.g., in labor, trade, capital, rental, money, credit, value of product, competition, etc., though, as by the above definition, P. E. concerns itself chiefly with material interests, it cannot—in dealing scientifically with the material welfare of such a being as man—exclude all reference to his moral and spiritual activities. A discussion, to be scientific, must take into account all elements that bear forcibly on the question: hence much that has been advanced on P. E. has at its beginning forfeited its claim to science by reducing man to a machine—known as the 'economic man.' As no such creature is known as really existing, P. E. need not discuss his welfare.

The word economy from the Greek for house-law or house-regulation, refers to the material portion of domestic regulation, and does not etymologically embrace, e.g., the observance of religion or the communication of instruction. The most important part of it, in this use, is the adjustment of the expenditure of the household to the income at their command. The term 'Political' came to be used with it as a convenient method of expressing the application to a state of a sound system of management in relation to its affairs. In later times, however, the word, as applied to a community, has taken larger and deeper application. P. E. now means, not merely the art of regulating communities in their financial and other material affairs, but also the science of those laws which Providence has established for their regulation in all their material interests. The income and expenditure of the govt., as apart from that of the people of the community, are of course under regulation like those of a household; but these form a department in P. E., called Finance (q.v.). It is evident that on a field so vast and so diversified with complex interests, there is likelihood of the formation of parties of theorizers on various separate lines. This has been the fact. The divisions mostly have been casual rather than scientifically developed; though there is a claim to a scientific development of P. E. now prominently made by advocates on both sides of the question whether govt. shall positively regulate the proceedings of the people in all or any of their leading physical interests (see the definition at the beginning), or instead shall trust to the great natural laws (supply and demand, etc.) to bring to bear through individual action all needful regulation. Thus, for illustration, if any were to advocate the utmost extreme of Free Trade (not that any party really does this), such advocates might give P. E. what they would deem a scientific development in the direction of trusting all to general natural laws; while at the other extreme Socialists (see SOCIALISM), and still further Communists (see COMMUNISM), actually tend to give P. E. what they deem a scientific development in the direction of putting no faith in great natural laws, but ordering all by governmental control. It is not the province of this work to decide between these two; yet it is permissible to suggest that P. E. may find a development equally scientific, on the principle that the great general laws—and equally the specific governmental control—will do their best work in a given case when each is combined with or balanced against the other, according to the special requirements of the case in hand. —For further discussion of various departments or relations of P. E., see the following titles (also the cross-references under some of them): ATELIERS NATIONAUX: BOUNTY: BANK—BANKING: CAPITAL: COLONY: COMMUNISM: COMPETITION: CONSUMPTION (in Polit. Economy): CO-OPERATION: CORN-LAWS: CREDIT: DEMAND AND SUPPLY: EXCHANGE: EXCISE: FARMERS' ALLIANCE: FINANCE: FOURIERISM: FREE TRADE: INTERNATIONAL WORKING MEN'S ASSOCIATION: LABOR: MACHINERY, POLITICAL ECONOMY OF: MONEY: MONOPOLY: NAVIGATION LAWS: RENT: REVENUE, PUBLIC: PROFIT SHARING: SLAVERY: SOCIALISM: TAX ON LAND, SINGLE: TARIFF, PROTECTIVE: TRADE-UNION: TRUSTS: VALUE.

POLIT'ICAL OFFENSES: crimes considered injurious to the safety of the state, or involving violation of the allegiance due by a citizen or a subject to the supreme authority of the state.

By the Roman law, in the early times of the republic, every act injurious to the state was comprehended under the name *perduellio*, and visited with death. That term included conspiracy against the govt., aiming at kingly power, aiding the enemies of Rome, and losing an army. The word *perduellio* afterward fell into gradual disuse, and the chief state offenses were known by the term *majestas*, or *crimen læsæ majestatis*, somewhat akin to the treason of modern times. In the republican period, the crimes to which the epithet *læsa majestas* was most frequently applied, were the betrayal or surrender of an army to the enemy, the excitement of sedition, and such a course of administration as impaired the dignity of the state. In imperial times, acts and words disrespectful to the reigning emperor were included, and an indignity to his statue was visited almost as severely as an offense against his person. *Læsa majestas* was generally punished with death, confiscation, and infamy. The criminal might even be tried after his death, to the effect of confiscating his property, and rendering his memory infamous—a practice to which resort was had in France and Scotland as late as the beginning of the 16th century.

In modern times, the acts brought under the category of P. O. have varied much at different periods and in different countries. They have in general been dealt with more leniently under constitutional than under despotic governments. It is, however, a principle which has been generally recognized by the most constitutional of governments, that when the legislature thinks itself endangered by a secret conspiracy against the state, or an understanding with the enemies of the country, it permits the executive, for a limited time, to arrest suspected citizens, without the formalities required in ordinary circumstances.

In England, a large number of the graver P. O. are included under the denomination Treason; and the treason law has sometimes been stretched to include offenses which by a fair construction could hardly come within it, such as the use of violence to reform religion or the laws, or to remove the councilors of the sovereign. Even riotous assemblies with the object of destroying all property of a particular class have been held treason. P. O. include also a number of crimes against govt. falling short of treason, and passing under the name Sedition, which, though they have for their ultimate object the violation of the public peace, do not aim at direct and open violence against the laws or the sovereign, but rather the dissemination of a turbulent spirit tending to produce such violence. The British govt. does not permit the political offenders of other countries to be included in extraditional treaties: and in modern times, generally speaking, extradition does not apply to political offenders; contrary to the doctrine laid down by Grotius. In some countries, conspiracy against the sovereign of any country in league with the state is a special offense; in Great Britain, however, this seems not to be the case.

In the United States the only political offense recognized by the federal constitution is treason, which (art. III. sec. 3) is defined to 'consist only in levying war against' the United States, 'or in adhering to their enemies, giving them aid and comfort.' Hence it is not treason to assassinate the president, while in a monarchical govt. the slaying of the head of the state, or even the attempt to slay, is always *crimen læsæ majestatis.* The United States have never extradited persons charged with P. O. against foreign govts., who may have taken refuge in this country. But if the act of treason were the assassination of a sovereign, the assassin would doubtless be extraditable if an extradition treaty covering the case of wilful murder existed between the two governments.

POLITICAL PARTIES, **French**: see **France** (Political Parties).

POLITICAL PARTIES in the United States: associations whose beginnings were in the discussions that introduced the Revolution. During the public events that preceded by several years the revolutionary war, the active men in the colonies became associated in two distinct parties, the first of a political character in the country. One, comprising those who resisted British aggression, took the name Whig (q.v.) or patriot party; the other, comprising those who supported the policy of the home govt., took the name Tory (q.v.) or loyalist party. The results of the war put an end to the Tory party as a political organization, and for a brief period the Whigs were the only distinct party. But when the convention assembled to draft a constitution for the union of states, the delegates were soon divided among themselves. One faction favored retention of the original plan of union—a league of states with equal powers, under a strong, federal govt.; the other regarded a strong federal or central power as monarchical in character, and accordingly opposed the first faction. The draft of the constitution as adopted was essentially federal; hence the political career of the two parties into which the Whigs had divided, the Federalists and the Anti-Federalists, began in the convention itself, whence it spread rapidly to the states, where it became intensified when each state was called to ratify the proposed constitution. The Federalists dominated for a time; made presidential nominations 1792, 96, 1800, 04, 08, 12, and 16; were successful 1792 (Washington) and 1796 (John Adams); and, after the campaign 1816, united with the party that had sprung from their early opponents.

Early 1792 a portion of the Anti-Federalists began advocating direct popular control over the govt., limitation of the central power, and preservation of the rights of the states reserved to them by the constitution. The Federalists named these men Republicans; and Jefferson wrote 1792, May 13, 'The Republican party who wish to preserve the govt. in its present form, are fewer in number,' i.e., than the monarchical Federalists. On the establishment of the French republic, late in the same year, numerous societies were organized in the several states, modelled after the Jacobin clubs of France. The members as a class opposed the Federalist as the party of aristocracy, and were averse to much in the Republican branch of the Anti-Federalist party, claiming that it was not as radical and aggressive as a popular party should be; but of the two parties they affiliated with the latter. The Republican party held its organization and name, and the radical branch was officially known as the Democratic-Republican party. In 1796 all connection between the new party and the democratic societies or clubs was severed, and thence till about 1828 the name Republican was used to designate the seceders from the Anti-Federalists. The Republicans made presidential nominations 1792, 96, 1800, 04, 08, 12, 16, 20, and 24; and were successful 1800 and 04 (Jefferson), 1808 and 12 (Madison), 1816 and 20 (Monroe), and 1824 (Jackson).

Between the elections 1824 and 28 the Republican party divided, one portion, under the leadership of John Quincy Adams, taking the name of National Republican, the remainder, under Andrew Jackson, that of Democratic. In the campaign 1828 both leaders were candidates for pres., Adams seeking re-election, and Jackson making his second canvass. The latter was elected by 178 electoral and 687,502 popular votes, to 83 electoral and 509,097 popular votes for Adams. In 1832 the anti-Jackson men in the Democratic party withdrew therefrom, and organized a new party under the old name Whig. This year is memorable also for the appearance of the first and only presidential ticket of the Anti-Masonic party, formed in N. Y. after the disappearance of William Morgan (1826), and which had displaced the National Republicans as opponents of the Democrats in that state 1830. William Wirt and Amos Ellmaker, the presidential candidates of the party, received 7 electoral votes, all in Vt. This party elected its candidate for gov. of N. Y. 1835, and was absorbed by the Whigs about 1840. The new Whig party made presidential nominations 1836, 40, 44, 48, and 52; was successful 1840 (Harrison) and 1848 (Taylor); was broken into several factions that became independent parties, chiefly by the slavery question; and ceased to exist as a party after its last national campaign.

From the second Whig party sprang a two-fold Free-Soil party. The first originated in a split in the Democratic party in N. Y., on the slavery question, resulting in two factions: the 'Barnburners,' afterward 'Softs,' who were opposed to the extension of slavery; and the 'Hunkers,' afterward 'Hards.' This last branch nominated Millard Fillmore (q.v.) for pres., and Charles Francis Adams (q.v.) for vice-pres., and received (1848) 291,263 popular but no electoral votes. The other branch, pledged to the restriction of slavery to its state limits, gained large strength in the n. states from the Whigs and anti-slavery Democrats, and had a considerable following in several of the s. states. A national convention, Pittsburgh, 1852, repudiated the Omnibus Bill (see COMPROMISE MEASURES OF 1850), demanded the repeal of the Fugitive Slave Law (q.v.), and nominated John P. Hale (N. H.) for pres., and George W. Julian (Ind.) for vice-pres. The candidates received 156,149 popular, but no electoral votes. In 1854 the Free-Soil party opposed the Kansas-Nebraska Bill (see KANSAS—*History*), in alliance with the anti-Nebraska men, and with that party became a constituent of the present Republican party. The Anti-Nebraska Men was the name assumed by a body of influential members of the Whig party in the n. at the time of the Kansas-Nebraska excitement. They were opposed to slavery, were supported by members of the Democratic party, who claimed that slavery should not be extended into the new territories, made no national organization, and in conjunction with the Free-Soil party proper in congress aided in electing an anti-slavery speaker (N. P. Banks) 1856. The first political organization of pronounced abolitionists was effected at Warsaw, N. Y., 1839, Nov. 13. It nominated James G.

Birney (N. Y.) for pres., and Francis J. Lemoyne (Penn.) for vice-pres., which nominations were confirmed by the first national convention at Albany, 1840, Apr. 1. This organization took the name Liberty party, also made nominations 1844, voted with the Free-Soil party 1848 and 52, and was merged into the Republican party 1856.

The presidential campaign 1856 saw three national parties in the field: the Democratic of Jefferson and Jackson; the newly-formed Republican (which should not be confounded with the Republican of 1792, the Democratic-Republican of 1792-96, or the National Republican of 1828); and the American. The latter was revived that year from local factions in several states, based on opposition to foreign influence and on a suspicion of political interference by the Rom. Cath. Church, and from the old Whig and Democratic parties. The party's presidential candidates, Millard Fillmore and Andrew J. Donelson, received 8 electoral and 874,534 popular votes. After a single presidential campaign, the party was merged with the Know-Nothings (q.v.), and both factions joined the Constitutional Union party, which nominated John Bell and Edward Everett 1860, and received 39 electoral and 589,581 popular votes.

The new Republican party lost the election 1856, but won every succeeding one, excepting 1884, to the present time (1891). During this period presidential tickets were nominated by the Democratic and Liberal Republican party 1872; National Temperance party 1872; National Greenback party 1876,80,84, National Prohibition party 1876, 80, 84, and 88; revived American party 1880; Woman's National Rights party 1884; and National Union Labor party 1888. (See CONVENTION, NATIONAL POLITICAL.) In the elections 1890, the National Farmers' Alliance (see FARMERS' ALLIANCE), though not assuming to be a distinct political party, presented candidates for state offices and for congress, on a platform dealing directly with national political and economic measures, and elected one gov. (S. C.), and eight members of congress (Kan. 5, Minn. 1, and Neb. 2). By their individual votes also in the interest of free silver coinage, they turned several states from the Republican to the Democratic side.

POLITICO-, prefix, *po-lĭt-ĭ-kō-* [Eng. *politics*]: political.

POL'ITICS: branch of combined ethics and economics which has for its subject the proper mode of governing a state, so as to secure its prosperity, peace, and safety, and to attain as perfectly as possible the ends of civil society. Among the subjects which P. embraces are the principles on which government is founded, the hands in which the supreme power may be most advantageously placed, the duties and obligation of the governing and governed portions of society, the development and increase of the resources of the state, the protection of the rights and liberties of the citizens, the preservation of their morals, and the defense of the independence of the state against foreign control or conquest. While the philosophy of governing constitutes the *science* of P., the *art* of P. consists in the application of that science to the individual circumstances of particular states. The ancient Greek writers treated P. with reference to an ideal perfect state, which each propounded according to his own speculative views, pointing out the variation of every existing government from his standard.—The P. of a country sometimes implies the course of its government.

POLIZIANO, *po-lē-tse-â'no*, ANGELO, known often under the Latin form POLITIANUS (anglicized POLITIAN): 1454, July 14—1494, Sep. 24; b. Montepulciano, in Tuscany; son of a doctor of civil law. The family name was Ambroginis, but P. took his from his native town—in Latin, *Mons Politianus.* He studied Latin, Greek, the Platonic philosophy, and the Aristotelian; also Hebrew. When scarcely 15 years of age, he took the Florentines with surprise by the publication of his famous *Stanze* (poem of 1,400 lines) in honor of Giulio de' Medici, who had carried off the palm at a tournament. Lorenzo de' Medici took notice of the brilliant lad, and placed him in a condition to continue his studies without pecuniary harassments, by appointing him tutor to his two sons, and subsequently gave him a residence in his charming villa near Fiesole, where P., who was passionately fond of country life, resumed his studies with fresh ardor. In 1484 he accompanied the Florentine ambassadors to Rome, and was received in a flattering manner by the pope, at whose request he translated (into Latin) the Greek historian Herodianus. for which he received 200 golden crowns. He also made Latin versions of the *Enchiridion* of Epictetus, the *Charmides* of Plato, and other works, with such elegance, that Erasmus pronounced him a master in translation. After having filled for some years a chair of Latin literature, he commenced teaching Greek. His popularity as a professor was great: pupils came to study under him from all the great cities of Italy, and even from distant parts of Europe; the principal were Francesco Pucci, Fortiguerra, Maffei de Volaterra, P. Crinitus, Guillaume Grocyn, Thomas Linacre, and Michael Angelo. His copies of Ovid, Statius, Pliny the Younger, Quintilian, etc., and other authors, are still preserved in the libraries of Italy, and are covered with marginal notes. His copy of the famous *Digest* of Roman law, with an elaborate philological and dramatical commentary, is in the Laurentian Library at Florence. In 1489 appeared his *Miscellanea*, a collection of critical and other observations on the ancient authors. Toward the close of his life, he entered into priest's orders, and was made canon of the Cathedral of Florence. Among the brilliant scholars of the classical Renaissance, P. occupies a foremost place in virtue of his vigor and originality. His intellect was penetrated by admiration of the chaste and noble literature of antiquity; but there was nothing servile in his imitations; he reproduced without difficulty —because he was himself a kindred genius—the strength of Tacitus, the elegance of Livy, and the conciseness of Sallust; his Latin poems, especially his elegies, display the beauty and ardor of his imagination. Among his vernacular pieces are his *Canti Carnascialeschi* (Carnival, or Merry Ballads), remarkable for felicity of style, pathos, and abundant imagery. His *Orfeo* was one of the earliest dramatic compositions produced in Italy. The editions of P.'s separate writings have been numberless. See Seraszi's *Vita di A. Politiano;* N. A. Bonafous *De A. Politiani Vita et Operibus* (Paris 1845); Tiraboschi's *Storia della Litterat. Italiana;* Greswell's *Memoirs of Politiano*, and Roscoe's *Lives of Lorenzo de' Medici and of Leo X.*

POLK, *pōk*, **James Knox**: eleventh president of the United States: 1795, Nov. 2—1849, June 15; b. Mecklenburg co., N. C.; descended from an Irish family named Pollock, that had immigrated into this country several generations before. His father was a farmer, and his early advantages not great. Entering the Univ. of N. C., he graduated 1818, and was admitted to practice law two years later. At the age of 28, he was elected to the state legislature; and, at 30, to congress, where he joined in the strong opposition to Pres. John Quincy Adams. He was twice elected speaker, 1835 and 37, continuing in congress until 1839, when he was elected gov. of Tenn. At the democratic convention in Baltimore 1844, he was nominated for pres., and was elected over the whig candidate, Henry Clay. The most notable members of his cabinet were James Buchanan, sec. of state; Robert J. Walker, sec. of the treasury; William L. Marcy, sec. of war; and George Bancroft, sec. of the navy, succeeded by John Y. Mason. The Mexican and Oregon boundary questions and their settlement were the chief events of his administration. After the recognition of the independence of Texas by Mexico, the Mexican govt. claimed the territory between the Nueces and the Rio Grande, against the claim of Texas. In 1837 the application of Texas to be annexed was opposed by Pres. Van Buren as a breach of amity with the neighboring republic. His successor, Pres. Tyler, earnestly pursued the plan of annexation, and this policy was inherited by Pres. Polk, under whose administration congress proceeded to annex, the question of boundary being expressly stated as one yet to be adjusted. It was, however, only two days after the act of annexation, 1845, July 4, that Pres. P., by request of congress, sent Gen. Taylor to the defense of Texas; and the gen., by advice received there, occupied the disputed ground. Futile negotiations intervened, and Gen. Taylor advanced to the Rio Grande, facing the Mexican troops, which made the first attack. In judging the course of Pres. P., the logic of events must thus be considered; but he was at least responsible indirectly for the action of his subordinates in seizing the ground in dispute; he could, as *ex-officio* commander-in-chief, have prevented it by cautionary instructions; and he would have done so if he had possessed the firm and high sense of honor manifested by Pres. Van Buren in our relations with Mexico. A large part of the responsibility for the Mexican war rests upon P. He has been further criticised, and by army men, for his neglect to make due provision for the army at that time, especially for failing to fill the skeleton regiments, thus prolonging the struggle, and bringing disaster in its inception.—The economical and administrative changes during his presidency were principally the adoption of the low tariff of 1846, the collection and management of revenue without the assistance of banks, and the establishment of the dept. of the Interior. Pres. P. retired after one term of service, having pledged himself at his nomination to decline re-election. Soon after his retirement, he fell ill, and died at Nashville, Tenn. He was held in much esteem for his excellent personal traits; but, as an occupant of the highest office in the republic, he must be classed with a number of others who have been elected quite as much for negative as for positive qualities, and have been but the instruments of whatever policies led to their nomination.

POLK, Leonidas, d.d.: bishop of the Prot. Episc. Chh., and Confederate general: 1806, Apr. 10—1864, June 14; b. Raleigh, N. C. He was graduated at West Point Milit. Acad. 1827; but the same year resigned his lieutenancy in the artillery, and applied himself to preparation for ministry in the Prot. Episc. Church, taking orders 1830. In 1838 he was appointed missionary bp. of Arkansas, with oversight provisionally of missions from Ala. to Tex.; and three years later he became bp. of La. At the opening of the war of secession, he offered his services to the Confederacy, was appointed maj.gen., and placed in command of the Mississippi from the Arkansas to the Ohio river. He constructed fortifications, such as Forts Donelson and Henry. Joining Gen. A. S. Johnston, he participated in the battle of Shiloh; and later, under Gen. Bragg, in the battles of Perryville, Murfreesboro, and Chickamauga. In 1864 he commanded the dept. of the Mississippi, having been promoted lieut.gen.; was at the head of an army-corps in subsequent operations, and took part in the Atlanta movements. He was killed by a cannon-shot while making a reconaissance on Pine Mountain, near Marietta, Ga. Retaining his ecclesiastical office to the end, he revived the mediæval traditions-of warrior bishops.

POLK, Thomas: patriot: about 1732–93; great-grandson of Robert P. or Pollock, who emigrated from Ireland and settled in Md. In 1753 Thomas left Penn., whither his father had removed, and settled in Mecklenburg co., N. C. In 1769 and 71 he was a member of the provincial assembly. In 1775 he issued the summons for election of the delegates who framed the Mecklenburg Declaration of Independence (q.v.), took an active part in the revolution, commanding a battalion of minute men, and later the 4th regt. in the army of Washington. P. was offered by Gen. Greene a commission as brig.gen., but as he had incurred the displeasure of Gen. Gates, the commission was never confirmed. At his death in Charlotte, N. C., he owned large and valuable estates acquired by purchase from the soldiers of the land warrants issued to them for their services.

POLK, WILLIAM: 1758, July 9—1834, Jan. 4; b. in Mecklenburg co., N. C.: patriot; son of Thomas P. While in college at Charlotte he received a commisson as 2d lieut. in the 3d S. C. regt. of the revolutionary army. In 1776 he was elected major of the 9th N. C. regt. in the army of Washington. He was in the battles of Brandywine, Germantown, Eutaw Springs, and Camden, and was twice badly wounded. He was in active service until the close of the war, after which he was a member of the N. C. legislative assembly. In 1812 he was appointed by President Madison brig.gen. in the U. S. army, but declined the commission for political reasons. On Lafayette's visit to this country 1824, P. was one of the commissioners to receive him. He outlived all the other revolutionary field officers of his state, and died in Raleigh.

POLKA, n. *pōl'kă* [Bohem. *pulka*, half]: dance of Polish or Hungarian origin, performed by two persons in $\frac{2}{4}$ time, and so called from the half-step characteristic of it; the air played to the dance. This dance has the rhythmical peculiarity of being accented on the third quarter of the measure. It became fashionable in w. Europe and in the United States about 1841. POLK, v. *pōlk*, to dance the polka. POLK'ING, imp. POLKED, pp. *pōlkt*. POLKA-JACKET, a kind of knitted jacket worn by women.

POLL, n. *pōl* [Low. Ger. *polle*, head: Dut. *polle*, head, top: Icel. *kollr*, top, stump, head: Sp. *cholla*, skull: Icel. *bolr*, the trunk—from *bola*, to cut off]: the head; the back part of the head; a register of heads or persons; the entry of the names of persons qualified to vote for civil officers and members of parliament; an election of civil officers, or the place where the votes are taken: V. to lop or cut off the head, as of a tree; to clip or cut off hair or wool; to shear; to enter a person's name in a list or register of voters; to receive or give votes. POLL'ING, imp.: ADJ. receiving or riving votes, as a *polling*-clerk; designating the place where votes are given, as a *polling*-place. POLLED, pp. *pōld*, cropped; brought to the poll, as votes: ADJ. lopped, as trees; shorn. POLL-BOOK, a register of persons who can exercise the franchise, or who have exercised it. POLL-CLERK, a clerk who enters the names of voters at an election as they appear to give their vote. POLL EVIL, a swelling on the head or nape of the neck in horses. POLL-TAX, a sum of money exacted from each person or head as a tax (see CAPITATION). A POLLED COW, a hornless cow. POLLED CATTLE, hornless cattle, a mixed breed of Scotch cattle.

POLL, n. *pŏl* [Gr. *hoi polloi*, the many]: a term applied at Cambridge to those men who do not take honors, but who only pass the examination required for a degree.

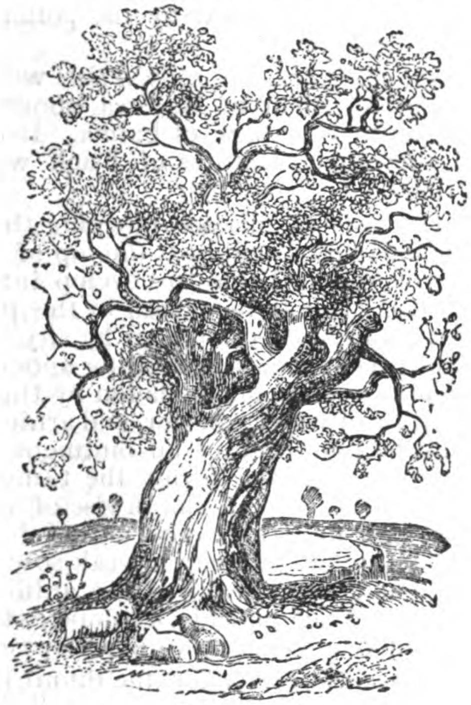
POLLACK, n. *pŏl'lăk*, or POLLOCK, *-lŏk* [Gael. *pollag*, the whiting; Ir. *pullog*, pollack], (*Merlangus pollachius*): fish of family *Gadidæ*, of same genus with the whiting and coal-fish: common on British coasts. It is very playful, often gamboling on the surface of the water. It attains about the same size as the coal-fish. It has three dorsal fins; the body is of longish shape; lower jaw much longer than the upper; tail slightly forked. The flesh is reckoned superior to that of the coal-fish. Young pollacks are sold sometimes as whitings, to which, however, they are not nearly equal. No fish more readily rises to the artificial fly. The fly is merely a bit of white feather tied to a common bait-hook. Worsted is sometimes used instead of the feather; and flies of different colors are sometimes used together, with great success. No reel is employed, and any stick is good enough for a rod; a few yards of string make a sufficient line.—The COMMON P. (*M. purpureus*) of the N. England coast is brownish-green above and white below, 1–3 ft. in length; much esteemed for food.—The BLACK P. or COAL-FISH (*M. carbonarius*), named from its black back, is of like size, and ranges from N. Y. northward.

POLL-ACT, *pōl'ăkt:* sanguinary act, passed at Trim in Ireland, by the Junto of the Pale 1465, under the Earl of Desmond, deputy. It ordained 'that it shall be lawful to all manner of men that find any theeves robbing by day or night, or going or coming to rob or steal, or any persons going or coming, having no faithful man of good name and fame in their company in English apparell, that it shall be lawfull to take and kill those, and to cut off their heads, without any impeachment of our sovereign lord the king. And of any head so cut off in the county of Meath, that the cutter and his ayders there to him cause the saed head so cut off to be brought to the portreffe to put it upon a stake or spear, upon the Castle of Trim, and that the saed portreffe shall testify the bringing of the same to him. And that it shall be lawful for the saed bringer of the saed head to distrain and levy by his hand (as his reward) of every man having one ploughland in the barony, two pence; and of every man having half a ploughland, one penny; and of every man having an house and goods, value forty shillings, one penny; and of every cottier having one house and smoak, one half-penny.' Much slaughter is said to have been committed under this remarkable act.

POLLAN, n. *pŏl'lăn* [Ir.], (*Coregonus Pollan;* see CO-REGONUS): fresh-water fish of family *Salmonidæ*, native of lakes in Ireland, abundant particularly in Lough Neagh, where it is often seen in large shoals, which issue from the deep waters, and haunt the shore from spring to autumn, when great numbers are taken by nets. The P. is 10 to 12 inches in length; it resembles the Gwyniad, but has not the snout produced like that fish; and there are differences in size and position of the fins. It is very like *Coregonus sikus*, a species found in the most n. parts of Norway. The spawn of the P. is deposited in Nov. and Dec. on the rocky or stony parts of the bottom of the lake which it inhabits. It is a well-flavored fish. The cry of 'Fresh Pollan' is even more common in Belfast during summer than that of 'Fresh Herring.'

POLLARD, n. *pŏl'lėrd* [from POLL 1]: a tree whose head has been lopped; a stag without horns—also applied to cattle; a clipped coin; a mixture of bran and meal: V. to poll, as trees. POL'LARDING, imp. (see below). POL'-LARDED, pp. POLLARD-TREES, or POLLARDS, trees cut down so as to leave only the lower part of the trunk, which gives off numerous buds and branches. **POLLARD**, see WHEAT.

POL'LARDING: cutting off the whole crown of a tree, leaving it to send out new branches from the top of the stem. The new branches are never equal in magnitude to the original branches of the tree, though often more numerous, and when P. is often repeated, the scars and stumps form a thick ring at the top of the stem, from which small branches spring. Pollards are not beautiful; but P. is practiced with advantage in districts where fuel is scarce, the branches being cut off for fuel every third or fourth year. Willows, Poplars, Alders, Elms, Oaks, and Limes are the trees most frequently pollarded, and in parts of Europe the White Mulberry. Trees of most rapid growth are preferred where fuel is the object; and willows, poplars, and alders are planted along water-courses, and in rows in moist meadows and bogs. Oaks are sometimes pollarded chiefly for the bark of their branches, and the whole treatment resembles that of copse-wood. In parts of Germany, landscapes may be seen of open country with many scattered oak and elm pollards, presenting a very peculiar appearance.



Pollard Oak.

POLLEN, n. *pŏl'lĕn* [L. *pollen*, fine flour: Gr. *palē*, the finest meal—from *pallō*, I sift by shaking: F. *pollen*, pollen]: fecundating powder or dust contained in the anthers of flowers, and afterward dispersed on the stigma (see STAMEN: FECUNDATION): the bloom of leaves. POL'LENA'RIOUS, a. *-ā'rĭ-ŭs*, consisting of pollen or meal. POLLENIN, or POLLENINE, n. *pŏl'lĕn-ĭn*, peculiar substance obtained from the pollen of certain plants. POL'LINAR, a. *-lĭn-âr*, or POL'LINOSE, a. *-ōs*, covered with a very fine dust resembling pollen. POLLINIC, a. *pŏl-lĭn'ĭk*, pertaining to pollen. POLLINIFEROUS, a. *pŏl'lĭn-ĭf'ėr-ŭs* [L. *fero*, I bear]: bearing or containing pollen. POLLEN-MASS, or POLLINIA, n. *pŏl-lĭn'ĭ-ă*, an agglutinated mass of pollen, occurring in some orders of plants. POLLINATION, n. *pŏl'-lĭ-nā'shŭn*, the conveyance of the pollen from the anthers to the stigma in Angiosperms, or to the nucleus in Gymnosperms. POLLINODIUM, n. *pŏl'lĭ-nō'dĭ-ŭm* [Gr. *eidos*, resemblance]: another name for the *antheridium*, which see. POLLEN-TUBE, the tube emitted by the pollen-grain after it is applied to the stigma.

POLLENZA, *pŏl-lĕn'zâ*, Sp. *pōl-yĕn'thâ:* well-built town in the n. part of the island of Majorca, about 2 m. w. of the Bay of Pollenza, 28 m. n.w. of Palma. It has a Jesuits' college and some manufactures of black woolen cloth. Pop. about 7,500.

POLL EVIL, *pōl ē'vl:* disease affecting the horse. It appears as an inflamed swelling at the top of the head or nape of the neck, and is liable to develop into an almost incurable abscess. It may be caused by the pressure of a halter or bridle, a tight check-rein, or by any injury to the top of the head. As soon as the swelling appears, an effort should be made to reduce inflammation by the use of cold water, or a mixture of water, vineger, and arnica; if a tumor forms it should be poulticed, or an ointment of lard and iodine applied; when matter forms, the tumor should be opened at its lowest point and lengthwise of the neck, the matter pressed out, and the cavity cleansed by frequent injection of tincture of iodine or a weak solution of chloride of zinc. The general health of the animal also must receive attention. When possible, a competent veterinarian should be consulted as soon as the disease appears.

POLLEX, n. *pŏl'lĕks* [L. *pollex*, the thumb]: the thumb in man; the innermost of the five normal digits of the anterior limb of the higher vertebrates.

POLLINCTOR, n. *pŏl-lĭngk'tŏr* [L.—from *pollin'gĕrĕ*, to lay out a corpse]: one who prepares materials for embalming the dead.

POLLIO, *pŏl'lĭ-ō*, CAIUS ASINIUS: politician, soldier, and author of some merit, and more reputation: B.C. 76—A.D. 4; b. Rome; of Marrucinian descent. His first ambition was to be an orator, and in his youth he seized every opportunity of hearing such men as Hortensius and Cicero. When civil war broke out between Cæsar and Pompey, P. sided with Cæsar, was present at the crossing of the Rubicon, and accompanied the great general in his rapid triumphal march through Italy. He joined Cæsar in his expedition to Greece against Pompey, and took part in the decisive battle of Pharsalia, B.C. 48. At the time of Cæsar's assassination (B.C. 44, Mar. 15), P. was gov. of Hispania Ulterior (Further Spain), and carrying on the war against Sextus Pompey. In the subsequent struggles, he sided with the triumvirate (Antony, Lepidus, and Octavian) against the oligarchic senate; and on the triumph of the former, was appointed administrator of Transpadane Gaul, in which capacity he saved the property of the poet Virgil at Mantua from confiscation. After Antony and Octavian had quarrelled, it was P. who effected their temporary reconciliation at Brundusium, B.C. 40; next year he conducted a successful campaign against the Parthini, a people of Illyria, and was granted a triumph therefor, after which he withdrew from political life. P. died at his Tusculan villa. Besides having reputation for oratory, P. was notable as historian, poet, and critic; and the loss of his writings is to be regretted. His literary and political criticism of his contemporaries, in particular, appears to have been valuable. He was a distinguished patron of men of letters, such as Catullus, Horace, Virgil; and was founder of the first public library at Rome.

POLLNITZ, *pol'nits,* KARL LUDWIG, Freiherr VON: writer of memoirs: 1692, Feb. 25—1775, June 23; b. near Cologne. He was equally remarkable for talents and lack of principle; and while his father's position as minister of state to the Elector of Brandenburg gave him access to court-circles, his extravagance and eccentricity, coupled with his vagabond habits, often reduced him to the greatest poverty. But after wandering all over Europe, taking service in the church in Austria, and in the army in Spain, he finally attracted the favorable notice of Frederick the Great, who appointed him his reader, and made him director of the theatre at Berlin. After having twice changed from Rom. Catholicism to Calvinism, he proclaimed himself a member of the Church of Rome shortly before his death. Among the numerous memoirs, either written by or ascribed to him, the following were the most popular in their day: *Lettres et Mém., et la Relation de ses premiers Voyages* (Amst. 1735); *État abrégé de Saxe sous Auguste III.* (Frankf. 1734); *Hist. secrète de la Duchesse d'Hanovre, épouse de George I.* (Lond. 1732). After his death, Brunn brought out P's. *Mémoires pour servir à l'Histoire des quatre derniers Souverains de la Maison de Brandenbourg* (2 tomes, Berl. 1792).

POLLOCK: see POLLACK.

POLLOCKSHAWS, *pŏl-lŏk-shawss':* municipal borough in the county of Renfrew, Scotland; on the banks of the White Cart, about 2½ m. s.w. of Glasgow, of which it is a suburb. P. is a manufacturing town; cotton-spinning, calico-printing, silk-weaving, bleaching, iron-founding, and fancy dyeing are extensively carried on. Pop. (1881) 9,333.

POLLOK, *pŏl'ok*, ROBERT: Scottish poet: 1798–1827, Sep. 17; b. Muirhouse, parish of Eaglesham, county of Renfrew. After taking his degree at Glasgow Univ., he entered the Divinity Hall of the United Secession Church, where he studied five years; and in 1827 was licensed to preach, having already written the *Course of Time;* and its composition, together with his ardor in study, brought on consumption. The poem was published by Blackwood 1827, Mar., and was highly praised, but the voice of praise fell on a dying ear. P. set out for Italy, but died at Shirley Common, near Southampton.

The Course of Time was immediately successful, and has run through more than 20 editions, and is extremely popular in Scotland. Its subject is the spiritual life of man, and his hereafter. It is a work of genius, but unequal in merit. Its ten 'books' contain eloquent and spirited passages, written with elevated feeling and diction, and with abundant enthusiasm and imagery; but considerable portions of it read like a dull sermon turned into blank verse. The writer drew his inspiration from nature, from Milton, and the Shorter Catechism—from the last, perhaps, most of all. His Memoir, by his brother, was published 1843. P. wrote also *Tales of the Covenanters*, pub. anonymously.

POLLUTE, v. *pŏl-lôt* [L. *pollūtus*, soiled or defiled—from *pollŭo*, I defile]: to make foul or unclean; to defile; to taint with guilt; to corrupt; to vitiate; to violate. POLLU'TING, imp.: ADJ. adapted or tending to defile or taint. POLLU'TED, pp.: ADJ. rendered unclean; defiled; tainted with guilt. POLLU'TEDLY, ad. *-lĭ*, in a polluted manner. POLLU'TEDNESS, n. *-nĕs*, the state of being polluted; defilement. POLLU'TINGLY, ad. *-lĭ*, corruptingly. POLLU'TER, n. *-tėr*, one who pollutes. POLLUTION, n. *pŏ-lô'shŭn*, act of polluting; defilement; uncleanness; impurity; in *Scrip.*, guilt or idolatry.—SYN. of 'pollute': to contaminate; defile; taint; corrupt; soil; debauch; vitiate; abuse; ravish; violate; pervert.

POLLUX, n. *pŏl'lŭks* [in L. and Gr. myth., a famous pugilist, twin brother of Castor]: bright star of the second magnitude in the constellation Gemini or the Twins. CASTOR AND POLLUX, in *geol.*, two closely allied minerals of the felspar family, resembling quartz in their hardness and transparency; in *astron.*, a constellation.—See CASTOR AND POLLUX.

POLLUX, *pŏl'lŭks*, JULIUS (real name POLYDEUCES): Greek grammarian and philosopher: about 130—about 188; b. at Naucratis, Egypt. He studied at Athens, and there he afterward taught grammar and rhetoric. His only work extant is the *Onomasticon*, a dictionary of Greek words which, instead of being in alphabetical order, are arranged by groups according to their subjects, and defined and illustrated by quotations from various writers. This work, which is of great value to Greek students, has been edited by a number of authors: the first edition appeared at Venice 1502, one by Hemsterhuys at Amsterdam 1706, another by Dindorf at Leipzig 1824, a fourth by Bekker at Berlin 1846. An elaborate treatise on P. and his work by Kirschoff was brought out at Berlin 1874. He was held in high esteem by the two emperors Marcus Aurelius and Commodus, during whose reign he taught at Athens.

POLO, *pō'lō* [prob. altered form of Thibetan *pulu*, ball]: game in which the players, mounted on horseback, endeavor with stout sticks curved at the ends, to strike a ball through a goal. Its original home seems to have been Thibet; but it is known and popular in most of the Himalayan countries. The game reached India through Afghanistan, and was speedily and eagerly taken up by members of the English cavalry regiments. It was introduced into England about 1871, and subsequently found its way to the United States. Although the rules vary in minor particulars, they are everywhere substantially identical.

The game may be briefly described as follows, as played at Hurlingham, England, and Newport, R. I. The grounds form a parallelogram not less than 250 yards long, and nearly as wide; the goal at each end being 8 yards wide, and marked by two posts. The ball used is 3 inches in diameter, and the sticks are each four ft. long with a cross-piece on the head. The stick is not long enough to touch a ball on the ground without the rider's stooping somewhat; and he must be prepared to stoop to right or left with equal readiness, and to drive the ball backward, forward, or sideways.

The players are mounted on specially trained ponies, which must be free from vice, and must not exceed 14 hands in height. From three to six persons can play on each side; in match games the number must be four. Two umpires are chosen, one for each side, and the ball is tossed into the middle of the field. The players take up their positions behind their respective goal-posts, and at the dropping of the flag they charge toward the ball, each side striving to reach and strike it first. If the ball is struck out of bounds, the nearest umpire returns it. Match games last an hour and 10 minutes, with 5 minutes' rest after each 20 minutes' play. A player breaking his stick must himself fetch a new one; if he drops his stick, he must dismount and recover it, and while on the ground is forbidden to strike at the ball. A ball hit past but not through the goal, entitles the defending side to a 'hit off' from the goal-line. One player on each side acts as goal-keeper, and remains at his goal. A player may impede his adversary with his stick; but must not reach under or over his opponent's pony. A player may interpose himself between his adversary and the ball: but not when he is in possession of the ball. The game involves considerable expense.

POLO, *pō'lō,* MARCO: famous traveller: about 1254–1324; b. Venice; of a noble family of Dalmatian origin. His father, Nicolo P., and his uncle, Matteo P., both eminent merchants, had, previous to his birth, set out on a mercantile expedition, visiting Constantinople, Soldaya or Sondach (on the Euxine), and Bulgar (on the Volga), the capital of Barkäi, Khan of Keptchak. Thence they travelled round the n. side of the Caspian Sea to Bokhara, where they remained three years, studying the Mongol language and trading; but 1261, some ambassadors from the Perso-Mogul khan to Kûblai (q.v.), Grand Khan of the Mongols, happening to pass through Bokhara, the brothers P. resolved to accompany them to Kemenfu, the summer residence of the Khagan. They were well received by Kûblai, who had never before met European gentlemen. He was very inquisitive concerning the peoples and mode of government in Europe, and commissioned them to act as his envoys to the pope, bearing a written request for 100 Europeans, well learned in the sciences and arts, to act as instructors to the Mongols. They reached Venice 1269; but finding it impossible to discharge the mission with which they had been intrusted, they set out on their return 1271, taking with them young Marco, and arrived again at the court of Kûblai Khan, 1275. Their second reception was still more honorable than the first, and the Khagan took special notice of Marco, from the rapidity with which he learned the customs and language of the Mongols. His wisdom and the nobility of his demeanor also recommended him as a fit envoy to the various neighboring rulers; and during his residence at their several courts P. was in the habit of closely observing the manners and customs of the country, and delivering on his return a detailed report to the Khagan. These reports were the groundwork of the book which informs us regarding the state of central and eastern Asia in the end of the 13th c. P.'s first mission was to the court of Annam or Tonquin (1277), and during his residence there he acquired much information, both from his own observation and from report, concerning Tibet, Yunnan, Bengal, Mien (or Pegu), and s. China; he was employed next to aid in making an inventory of the archives belonging to the court of the Song dynasty; and soon afterward was appointed gov. of the town of Yang-tchow, in the province of Kiang-si, in e. China, which post he held three years. He also accompanied a Mongol army to the attack of the kingdom of Pegu; and closed the list of services rendered to Kûblai by accepting the embassy to Tsiampa, the s. part of Cochin-China. Having thus passed 17 years in the service of the Mongol khan, and visited the chief countries and cities of e. Asia, travelling through kingdoms (e.g., China) which no European had ever seen before, and acquiring much knowledge of other kingdoms (e.g., Japan, called by P. *Zipangu*), the existence of which had not been even suspected, he succeeded in obtaining permission to join the escort of a Mongol princess who was travelling to the court of Persia. The three Polos accordingly set out 1291, travelling through China, and thence, by sailing through the Chinese Sea and Indian Ocean, finally arrived at Teheran, where they stayed some time; but learning that Kûblai Khan was now dead, they continued their journey, and arrived at Venice 1295, bringing with them much wealth and many precious objects, the fruits of their trading. Marco, in the following year, commanded his own galley in the great battle off Curzola, in which the

Venetians, under Dandolo, were defeated by the Genoese under Doria; and was taken prisoner and immured in a dungeon at Genoa. Here he dictated, with the aid of memoranda that he had made during his travels, an account of his journey through the East, which was subsequently revised with care. After his liberation he returned to Venice, where he was appointed member of the grand council; and in that city he died. P.'s narrative created an immense sensation among the learned public, and many did not hesitate to affirm that it was pure fiction; but the Rom. Cath. missionaries and subsequent Venetian travellers into those remote regions verified many of P.'s statements, and then came a reaction of public opinion; P.'s wonderful minuteness, extensive research, and accuracy being the theme of universal admiration. His work was of inestimable value as a stimulant and guide in geographical research; it encouraged the Portuguese to find the way to Hindustan round the Cape of Good Hope; and it roused the passion for discovery in the breast of Columbus, thus leading to the two greatest of modern geographical discoveries. The first Italian edition appeared Venice 1496, and has been often reprinted. A critical edition was edited 1827 by Baldelli; a new one by Bartoli (1864). There are about 60 translations in various languages, including several English ones. But one of the best in any language is the standard English one by Col. Yule, *The Book of Marco Polo* (2 vols. 1871; new ed. 1875), with maps, plates, and learned annotations and illustrations, largely from oriental sources.

POLONAISE, n. *pō'lŏ-nāz'* [F. *polonais*, Polish]: a robe or dress adopted from the fashion of the Poles; in *music*, a movement of three crotchets in a bar; a dance adapted to such music; also PO'LONESE', n. *-nēz'*, and PO'LONISE', n. *-nīz'*. PO'LONESE', n. the Polish language.

POLONY, n. *pō-lō'nĭ* [a corruption of *Bologna* sausage]: a kind of sausage.

POLOTSK, *pō-lŏtsk':* town of w. Russia, govt. of Vitebsk, on the banks of the Düna, where that river is joined by the Polota. It was founded in the 9th c., is the seat of a bp. of the Greek United Church; and has several churches, a convent, and a school for the nobility. Here, 1812, the Russian general, Wittgenstein, defeated the French under Oudinot and Sire. Pop (1880) 12,200.

POLTAVA, *pŏl-tâ'va:* government in Little Russia, between Kiev on the w. and Kharkov on the e.; 19,071 sq. m. The surface is flat, with gradual slope s.w. to the banks of the Dnieper, which forms the s. boundary, and into which the chief rivers—the Sula, Psiol, and Worskla—flow. The govt. does not abound in wood, but possesses rich and extensive pastures. The soil is mostly clay and fertile vegetable mold, and the climate is healthful. Agriculture and cattle-breeding are staple occupations. The manufactures are not numerous nor important. Commerce is chiefly in the hands of Jews, and is transacted mostly at the fairs, the most important of which are those of Poltava and Romny. Pop. (1880) 2,400,000.

POLTA'VA: chief town of the govt. of P.; on the right bank of the Worskla, a tributary of the Dnieper, about 934 m. s.s.e. of St. Petersburg. P. has few manufactures, and its trade is active only during the four annual fairs. The most important fair, the Illinsky, lasts about a month. At these fairs, merchandise is exposed for sale worth $20,000,000. The principal articles of traffic are cloths, woolen tissues, colonial productions, fur, wool, horses, and agricultural produce and implements. P. is famous as the scene of Charles XII.'s defeat by Peter the Great 1709, and a monument commemorating the victory of the czar stands in the principal square; while three m. from the town a mound surmounted by a cross, still known as the 'Swedish Tomb,' marks the battle-field. P. has a cathedral, numerous churches, and a school for cadets. Pop. (1880) 34,000.

POLTROON, n. *pŏl-trôn'* [F. and Sp. *poltron*, a scoundrel, a coward—from It. *poltrone*, an idle fellow—from *poltra*, a bed to lie on during day; *poltrire*, to play the coward: Ger. *polster*, a mattress; *polterer*, a braggart]: a coward; one without courage. POLTROON'ERY, n. *-ėr-ĭ*, baseness of mind; want of spirit; cowardice.—SYN. of 'poltroon': dastard; craven; coward; scoundrel.

POLVERINE, n. *pŏl'vėr-ĭn* [It. *polverino*, ashes used in the making of glass—from *polvere*, dust—from L. *pulvis*, dust]: a kind of potash from the Levant, preferred in the manufacture of glass.

POLY-, *pŏl'ĭ-* [Gr. *polus*, many]: a common prefix, signifying 'many of; having many.'

POLYACOUSTIC, a. *pŏl'ĭ-ă-kows'tĭk* [Gr. *polus*, many; *akoustĭkos*, belonging to the sense of hearing—from *akouō*, I hear]: that multiplies or magnifies sounds.

POLYAD, n. *pŏl'ĭ-ăd* [Gr. *polus*, many]: in *chem.*, applied to an element consisting of more than one atom.

POLYADELPHIAN, a. *pŏl'ĭ-ă-dĕl'fĭ-ăn*, or POL'YADEL'PHOUS, a. *-fŭs* [Gr. *polus*, many; *adel'phos*, a brother]: in *bot.*, having the stamens united in three or more bundles or parcels, as in the class of plants POL'YADEL'PHIA, *-fĭ-ă*.

POLYADELPHOUS: see POLYADELPHIAN.

POLYANDRIAN, a. *pŏl'ĭ-ăn'drĭ-ăn*, or POL'YAN'DROUS, a. *-drŭs* [Gr. *polus*, many; *anēr*, or *andra*, a man]: in *bot.*, having many stamens, or any number above twenty; belonging to the class POL'YAN'DRIA, *-drĭ-ă*.

POLYANDRY, n. *pŏl'ĭ-ăn'drĭ* [see POLYANDRIAN]: practice of women having more than one husband at the same time; the opposite of *polygamy* (see MARRIAGE). POL'YAN'DRIC, a. *-drĭk*, relating to polyandry; mating with several males.—*Polyandry* has its chief seat in Tibet. There a wife commonly is the wife of a whole family of brothers—the elder brother being chief husband. In the Himalayan and sub-Himalayan regions adjoining and under the influence of Tibet, it is of frequent occurrence in the same form, as in the valley of Kashmir, in Ladak, among the Koech, among the Telingese. Further s. in India, P. is found among the Tudas of the Neilgherry Hills, the Coorgs of Mysore, and the Nayars of Malabar. It is found again off the Indian coast in Ceylon; and eastward it is an ancient though now almost superseded custom in New Zealand, and in one or two of the Pacific islands. Northward it is found in the Aleutian Islands; and on the Amer. continent w. and n. of the Aleutians, among the Koryaks, n. of the Okhotsk Sea. In the Russian empire on the w. side, it is found among the Saporogian Cossacks: thus it can be traced at points half round the globe. But further, it exists in several parts of Africa; and it occurs again in many parts of America among the red men. We have the authority of Humboldt for its prevalence among the tribes on the Orinoco, and in the same form as in Tibet. 'Among the Avaroes and the Maypures,' he says, 'brothers have often but one wife.' Humboldt also vouches for its former prevalence in Lancerota, one of the Canary Islands. Thus, P. is a phenomenon of human life independent of race and country.—See Latham's *Descriptive Ethnology* (1859), I. 24, 28; II. 398, 406, and 462; Humboldt's *Personal Narrative*, Williams's translation, 1819, V. part 2, p. 549; and chap. i. vol. I. p. 84; Hamilton's *New Account of the East Indies* (Edin. 1727), I. 274 and 308; Reade's *Savage Africa*, p. 43; Erman's *Travels in Siberia*, II. 531; *Marriage Ceremonies*, by Seignior Gaya (translation), 2d ed. (Lond. 1698), 70, 96; Emerson Tennent's *Ceylon*, 3d ed. (1859), II. 429; Grey's *Polynesian Mythology*, 1855, p. 81; *A Summer Ramble in the Himalayas* (1860); Vigne's *Kashmir; Journal Asi. Soc. Bengal*, IX.; *Asiat. Resch.*, V.; also M'Lennan's *Primitive Marriage* (1865); Herbert Spencer's *Principles of Sociology* (1876).

From ancient history we learn that the area over which P. at one time existed was even more extended; while in certain cantons of Media, according to Strabo (II. 798, and see Goguet, III. book vi. c. i.) polygynia was authorized by express law, which ordained every inhabitant to maintain at least seven wives; in other cantons, precisely the opposite rule prevailed: a woman was allowed to have many husbands, and they looked with contempt on those who had less than five. Cæsar informs us that in his time P. of the Tibetan type prevailed among the Britons (*De Bello Gallico*, lib. v. c. xiv.). There is direct evidence of its existence among the Picts in the Irish Nennius App. li., besides the traces of it remaining in the Pictish laws of succession. Indeed, to pass over communities in which something like promiscuity of intercourse between the sexes is said to have prevailed—such as the Massagetæ, Agathyrsi, and the ancient Spartans—we find several among which P., or a modified promiscuity, must have been the rule. Some, assuming (though this assumption seems scarcely warranted) that the legal obligation laid on younger brothers in their turn to marry the wives of their deceased elder brother, is a relic of P. of the Tibetan type, hold that P. prevailed at one time throughout India (*Institutes of Menu*, iii. s. 173, and ix. ss. 57, 58), among the ancient Hebrews (Deut. xxv. 5–11); in Siam, Burmah, in Syria among the Ostiaks, the But (Bodo), the Kasia, and the Puharies of Gurhwal. Traces of it indeed remained in the time of Tacitus among the Germans (Tac., *Germ.*, xx., Latham's ed. 67 and *seq.*). In short, P. is by many writers considered as one of the transitional forms in the advance from a primitive state of promiscuity; but the assumption that pure promiscuity ever had a widely established and enduring existence is undeniably dubious. The origin of this peculiar institution seems connected with the want of balance between the numbers of the sexes, due to the practice of female infanticide, which is its almost invariable accompaniment. Tribes of warriors, wholly devoted to military life, find women an incumbrance rather than a solace; and from this cause, and probably from the difficulties of subsistence, formed the practice of killing their female children, sparing them only when they were the first-born. The disparity of the sexes would lead to P., and once instituted, the custom would in many cases continue to exist after the habits and necessities which produced it disappeared. In several places, as in Ladak, where P. prevails, the sexes are now either equally balanced, or the female sex predominates. In these cases, polygynia and polyandry are commonly found existing side by side. The subject is one which demands and as yet has not received full investigation.

POLYANTHES, n. *pŏl'ĭ-ăn'thēz* [Gr. *polus*, many; *anthos*, a flower]: a genus of showy garden flowers, ord. *Liliācĕæ*. POLYANTHES TUBEROSA, *tūb'ėr-ōz'ă* [L. *tūbĕrōsus*, having fleshy knots—from *tūber*, a protuberance]: the Tuberose (q.v.), prized for its fragrance and beauty.

Polyanthus.

POLYANTHUS, n. *pŏl'ĭ-ăn'thŭs* [Gr. *polus*, many; *anthos*, a flower]: kind of Primrose (q.v.), much prized and cultivated by florists. It is generally believed to be a variety of the Common Primrose (*Primula vulgaris*), produced by cultivation, in which an umbel of numerous flowers is supported on a common *scape* (leafless flower-stem), instead of each flower rising on its own stalk from the crown of the root; a modification to which a tendency appears often in the wild plant itself. Thus, in its habit it somewhat resembles the cowslip and oxslip, while in the size of its flowers it is more like the common primrose; but instead of the pale uniformity of the wild plant, it exhibits great variety of delicate and beautiful colors. The sub-varieties are innumerable. new ones being continually produced from seed, and of short duration. The seed is sown about midsummer, and flowers may be expected in abundance next year, if the young plants are properly planted out. A rich free soil is most suitable. The P., more than its congener, the auricula, loves shade and moisture. It is very hardy, and seldom suffers from the most severe winters. Fine kinds are preserved for a time by dividing the root. The cultivation of the P. is assiduous and successful in England.

POLYAN'THUS NARCIS'SUS: see NARCISSUS.

POLYARCHY. n. *pŏl'ĭ-âr'kĭ* [Gr. *polus*, many, and *archē*, government]: the government by many—opposed to *monarchy;* also POLYGARCHY. POLYATOM'IC, a. *-a-tŏm'ĭk*, in *chem.*, term applied to elements which contain more than one atom in their molecules.

POLYATOM'IC AL'COHOLS: see POLYHYDRIC ALCOHOLS.

POLYBA'SIC ACIDS: acids which require two or more equivalents of a base for neutralization. Most of the inorganic acids combine with bases in such a manner that one atom of the acid is united with one atom of a metallic oxide to form a neutral salt. Nitric acid may be taken as an illustration of the acids possessing this property, and which may therefore be called *monobasic*. In other cases, e.g., sulphuric acid, one atom of acid possesses the property of combining with two atoms of base; such acids are termed *bibasic* or *dibasic*. Common phosphoric and arsenic acids are examples of a third class of acids in which one atom combines with three atoms of base, and which are therefore termed *tribasic*. No polybasic acid is known beyond tribasic.

Among the organic acids, a similar relation takes place, acetic, succinic, and citric acids affording examples of the monobasic, dibasic, and tribasic class.

The following are the most important general differences shown by acids of different degrees of basicity:

1. Each *monobasic* acid can form but *one* ether, which is neutral. 2. A *Monobasic* acid cannot form a stable, well-defined acid salt, or a salt with two or more metallic bases.

1. Each *dibasic* acid can form *two* ethers, one neutral, and the other acid. 2. *Dibasic* acids can form with each metallic base a neutral salt and an acid salt. They can form also double salts containing two metallic bases.

1. Each *tribasic* acid can form *three* ethers, one neutral, and two acid. 2. *Tribasic* acids can form *three* salts with the same metallic base, two of them acid, and one neutral.

Many attempts have been made to account for the polybasic or monobasic character of an acid, from its composition. According to Kekulé (*Lehrbuch der organisch. Chemie,* I. 210–219), the basicity depends not, as was formerly supposed, on the molecular constitution of the acid, but on the amount of oxygen contained in its radical. Further, see the article ACIDS in Watt's *Dictionary of Chemistry,* and the chemical handbooks.

POLYBASITE, n. *pŏl'ĭ-bā'sīt* [Gr. *polus,* many; *basis,* a base]: a rich ore of silver of an iron-black color.

POLYBIUS, *pō-lĭb'ĭ-ŭs:* Greek historian: about B.C. 210–128; b. Megalopolis, a town of Arcadia. From Lycortas, his father, who was among the leading men of the Achæan League, he received valuable instruction in the science of politics and the art of war. In 181 he would have visited Egypt in the capacity of ambassador, but the project of sending an embassy to that country was given up. His engaging in public affairs dates probably from this period; and he rapidly gained the confidence of his countrymen. He was one of the 1,000 noble and influential Achæans, who, after the conquest of Macedonia 168, were sent to Rome on the summons of the commissioners from that city to answer the charge of having failed to assist the Romans against King Perseus. On their arrival in Italy 167, they were not put upon their trial, but were distributed among the towns of Etruria. Owing, perhaps, to his having formed the friendship of Æmilius Paulus or of his sons Fabius and Scipio, he was more fortunately allocated than others of his countrymen. His residence was fixed at Rome and in the house of Paulus. Scipio, then about 18 years of age, became strongly attached to P., made him his companion in all his military expeditions, and profited greatly by his knowledge and experience. P. in his turn derived much advantage from the protection and friendship of Scipio, who gave him access to public documents, and aided him in the collection of materials for his great historical work. In 151 the surviving Achæan exiles were permited by the Roman senate to return to Greece, and among them was P., who arrived in Peloponnesus after a residence of 17 years in Italy. He soon, however, rejoined Scipio, followed him in his African campaign, and was present at the destruction of Carthage 146. But the outbreak of war between the Achæans and Romans summoned him again to Greece, where he arrived soon after the taking of Corinth. All his influence was exerted to procure from the conquerors favorable terms for the vanquished; and so grateful were his countrymen for his services in their behalf, that they erected statues in his honor at Megalopolis (his native town), Mantinea, Pallantium, Tegea, and other places. It must have been about this time that P. undertook the writing of his great historical work, the materials of which he had long been collecting. It is not known at what period of his life he visited in foreign countries the places which he had to describe in his history. We know from himself that he undertook long and laborious journeys into Africa, Spain, Gaul, and even as far as the shores of the Atlantic, to add to the scanty knowledge regarding these regions. These journeys were probably while accompanying Scipio. In the latter period of his life, he travelled in Egypt; and about 12 years before his death he probably accompanied Scipio to Spain, where he witnessed the fall of Numantia. He died in his 82d year, in consequence of a fall from his horse.

As a historian, P. occupies high rank. His work, beginning where that of Aratus breaks off, includes the period B.C. 220–146, i.e., to the year when Corinth fell, and, with it, the independence of Greece. Of the two parts into which it was divided, the first embraced 53 years, beginning with the second Punic war and the social war in Greece, and ending with the subjugation of the kingdom of Macedonia 168. This, the chief portion of his history, was designed to show how, in the short space of 53 years, the greater part of the world had been conquered by the Romans; and in order that his countrymen might have better knowledge of the rise of that people, he gives a sketch of the history of Rome from its capture by the Gauls to the outbreak of the second Punic war. This occupies the first two books, and may be regarded as an introduction to the work. The second part embraces the period from the fall of the Macedonian kingdom, 168, to the taking of Corinth 146. This part is supplementary to the first, and seems to have brought down the history of the conquest of Greece to its completion in the 39th book, while the 40th and last probably contained a chronological summary of the entire work. The style of P. is not to be praised, and he incurred the censure of later Greek critics for negligence in choice of words and in structure of sentences. His tone is too didactic in general; he abounds in moral reflections and loses no opportunity for preaching; and though his readers are prepared for this by his calling his work not a *Historia*, but a *Pragmateia*, still the continuity of the narrative is too often interrupted by digressions, often of little interest or value, and at best fatal to unity of impression and artistic effect. His praiseworthy aim at thoroughness and comprehensiveness, and to show the entire political situation at each important occasion, leads to wearisome and confusing digressions. His great merits are the conscientious care with which he collected his materials, his critical insight and breadth of view, his strong love of truth, and his sound judgment, which was materially assisted by his familiarity with political and military life. Much the greater part of his work has perished. Of the 40 books, we possess only five entire; and of the rest, merely fragments or extracts. Some of these latter, however—such as the account of the Roman army—are of considerable length and value, and four separate collections of them have been added from time to time to the remains of the work. The first of these, discovered soon after the revival of learning, in a MS. of Corfu, gives us the greater part of the 6th book, and portions of the remaining 11. The second consists of extracts made in the 10th c., entitled *Excerpta de Legationibus*, and published at Antwerp by Ursinus 1582. The third, *Excerpta de Virtutibus et Vitiis*, was published by

Valesius 1634. The fourth, *Excerpta de Sententiis*, was discovered by Cardinal Mai in the Vatican, and published by him, Rome 1827. The history of P. was very closely followed by Livy after the period of the second Punic war, and by Cicero in his account of the Roman constitution in his treatise *De Republicâ.*—The best annotated edition of P. is Schweighäuser's (Leip. 1789). The best editions of the text, including that of the Vatican fragments, are those of Bekker (Berl. 1844) and L. Dindorf (1866).

POLYCARP, *pŏl'ĭ-kârp:* bishop of Smyrna, and one of the most illustrious of the early Christian martyrs; b. sometime before A.D. 69; d. prob. 155, Feb 23. (The date of death has until recently been assigned to 166, in accordance with the *Chronicle* of Eusebius.) The place of his birth is not known. He was, however (according to a legendary fragment ascribed to an unknown Pionius), brought up at Smyrna, where his pupil, Irenæus, states that P. was taught the doctrines of Christianity by the apostles, particularly by John, with whom he had 'familiar intercourse.' The testimony of Irenæus on this point is of immense value, as it furnishes the chief historical link uniting the apostolic age—that age which is reflected in the later parts of the New Testament—with the rising church of the 2d c. The passage occurs in an expostulatory epistle to a Roman heretic, Florinus, and is preserved by Eusebius (*Hist. Eccl.* xx.). 'I can tell also the very place where the blessed Polycarp was accustomed to sit and discourse; and also his entrances, his walks, the complexion of his life, and the form of his body, and his conversations with the people, and his familiar intercourse with John, as he was accustomed to tell, as also his familiarity with those that had seen the Lord. Also concerning his miracles, his doctrine, all these were told by Polycarp, in consistency with the Holy Scriptures, as he had received them from the eye-witnesses of the doctrine of salvation.' The fragment of Pionius (above referred to) informs us that P., when a little child, was adopted by a rich Christian lady, Callisto, who left him heir to all her wealth, enabling him to gratify his love of beneficence and charity. We are utterly without means of verifying this narrative of Pionius; it is certain only that in some way P. had distinguished himself at a comparatively early period, for before the death of the apostle John (i.e., at the latest, before 104), P. was ordained bishop of the church at Smyrna (according to Tertullian and Jerome) by John himself; according to Irenæus, by 'the apostles;' and according to Pionius, by 'the bishops of the neighboring churches'—statements quite reconcilable with each other. P. was in the exercise of his pastoral office when Ignatius (q.v.) of Antioch passed through Smyrna on his road to Rome (107–116); and we are told that these two pupils of the apostle John, who had probably known one another in earlier years, had much delightful Christian converse. Almost half a c. afterward, P. himself visited Rome, when Anicetus was bp. there (157–168), and had a friendly conference with his brother on the subject of the proper time to hold

Easter. They could not agree—but they agreed to differ. His martyrdom, which is related at great length and in a touching manner by Eusebius (*Hist. Eccl.* xiv.), took place during the persecution under Emperors Marcus Aurelius and Lucius Verus. When asked, or rather entreated, 'to revile Christ' by the proconsul Statius Quadratus, who, being deeply impressed with the venerable appearance of the aged bishop, wished if possible to save his life, P. replied: 'Eighty-and-six years have I served Him, and He never did me wrong; and how can I now blaspheme my King that has saved me?' P. was burned alive. In such profound reverence was he held by his fellow-Christians, for his almost perfect graces of character, that the Jews (who had been conspicuously zealous in collecting 'wood and straw from the shops and baths' to burn him) instigated the proconsul not to give up the corpse of the martyr to his co-religionists, 'lest, abandoning him that was crucified, they should begin to worship this one.' More convincing evidence of a saintly character has never been adduced.

P. wrote several *Epistolæ*, of which only one has been preserved, *Epistola ad Philippenses*, valuable for its numerous quotations from the New Test.—especially from the writings of Paul and Peter. There has been some doubt whether this epistle is really by P.; but this doubt is lessening. In the most recent edition of the Apostolic Fathers (*Patrum Apostolicorum Opera*, Leipzig 1877), Prof. Zahn defends its genuineness. There are English versions by Cave, Clementson, and Wake.

POLYCARPOUS, a. *pŏl'ĭ-kâr'pŭs*, or Pol'ycar'pic, a. *-pĭk* [Gr. *polus*, many; *karpos*, fruit]: in *bot.*, having the carpels distinct and numerous, each flower bearing several fruits—applied to plants which flower and fruit many times in the course of their life.

POLYCEPHALOUS, a. *pŏl'ĭ-sĕf'ă-lŭs* [Gr. *polus*, many; *keph'ălē*, the head]: in *bot.*, having a common support, capped by many like parts.

POLYCHORD, n. *pŏl'ĭ-kawrd* [Gr. *polus*, many; *chordē*, a string or chord]: an instrument having many strings; an apparatus which couples two octave notes.

POLYCHROITE, n. *pŏl'ĭ-krō'īt* [Gr. *poluchrŏos*, variegated—from *polus*, many; *chrŏa*, color]: the coloring matter of saffron, which exhibits a variety of colors when acted upon by various reagents.

POLYCHROME, n. *pŏl'ĭ-krōm* [Gr. *polus*, many; *chrōma*, color]: a peculiar substance obtained from the bark of the horse-chestnut, and in quassia-wood, which gives to water the quality of exhibiting a curious play of colors when acted upon by reflected light: Adj. executed in the manner of polychromy. Polychromatic, a. *pŏl'ĭ-krō-măt'ĭk*, yielding many colors; exhibiting a play of colors—applied to an acid resulting from the action of nitric acid upon aloes. Pol'ychromy, n. *-mĭ*, the art of coloring statuary to imitate nature; the art of heightening the effect of architectural decorations by the application of colors.

POLYCHROME PRINT'ING, *pŏl'i-krōm:* art of printing in one or more colors at the same time; a process successful with metal plates first in the hands of Congreve, England 1820. Sir William Congreve had seen Applegath's polychromatic block-printing press, by which very rude colored pictures were produced, and he conceived the idea of improving on the press, and doing the work with metal. His plan is extremely simple, though requiring great nicety in operation. First, the picture is outlined upon a metal-plate; and supposing it intended to have two colors, then the details of only the chief color are completed upon it, and all the parts for the other color are cut out; and into those parts other plates are fitted, like the portions of a child's puzzle-map, but with very great exactness; and upon these the engraving for the parts of the second color is completed. When these are done, a thickness of type-metal is attached to the back of these interior pieces, so that they can be held separately, and pushed forward or drawn backward at pleasure. Then they are so adjusted to the machinery of the press, that they are withdrawn when the first color-roller passes over the surface of the main plate, and are pushed forward beyond the face of the main plate, so as to receive the color of the second roller, which then passes over them without touching the first or main plate. Having received their colored ink, the secondary plates are again moved back to a perfect level with the other, so as to form an entire plate, carrying two colors, which are thus, in the ordinary way, imprinted on the paper. Since Sir William Congreve's patent, very many improvements have been made, the principle, however, remaining the same, and it now has very wide application.

POLYCLETUS, *pŏl-ĭ-klē'tŭs:* Greek sculptor: b. at Sicyon; contemporary with Phidias (B. C. 5th c.); called sometimes P. the Elder. He practiced his art chiefly at Argos. His most famous work was the *Hera* at Argos, carved in ivory and gold, deemed by ancient critics inferior in grandeur to Phidias's Zeus at Olympia, but surpassing it in finish. P. was unexcelled in rendering ideal forms of athletes. Of this class were his *Diadumenos* (an athlete putting round his own head the *diadema*, or crown of a victor in the games), and *Doryphoros* (lance-bearer). Another notable work of P. was his *Astragalizontes*, group of boys playing with knuckle-bones (*Astragala*). The originals of his works all have perished, but copies in marble of the head of the *Hera* (3 copies) and of the *Diadumenos* are extant. —P. the younger, also a sculptor, native of Argos, lived B.C. 4th c. His works also were mostly, but not exclusively, in bronze, and represented Olympian athletes: none have come down to our time.

POLYCOTYLEDON, n. *pŏl'ĭ-kŏt-ĭ lē'dŏn* [Gr. *polus*, many; *kotulē'dōn*, a hollow vessel—from *kotulē*, a cup]: in *bot.*, a plant of which the embryos have more than two seed-leaves or cotyledons. POL'YCOTYLE'DONOUS, a. *-lē'dŏ-nŭs*, term applied to plants having more than two lobes to the seed: see COTYLEDON: DICOTYLEDONOUS. In some of the *Coniferæ* in particular, there are numerous cotyledons; the genus *Pinus* has from 3 to 12. These cotyledons are placed in a whorl, and have the gemmule of the embryo in the midst of them. Polycotyledonous plants do not form a separate division of the vegetable kingdom, but are ranked with dicotyledonous plants; for plants with two, and plants with more cotyledons, are found not only in the same nat. order, but in the same genus. POL'YCOTYLE'DONY, n. *-nĭ*, an accidental increase in the number of cotyledons.

POLYCRACY, n. *pŏ-lĭk'ră-sĭ* [Gr. *polus*, many; *kratos*, power, strength]: government by many rulers.

POLYCRATES, *pō-lĭk'ra-tēz:* famous Greek 'tyrant' of Samos: son of Æaces; b. in the first part of B.C. 6th c.; but nothing is known of him until the time when, with the assistance of his brothers Pantagnotus and Syloson, he obtained possession of the island B.C. 537 or 536. The three brothers at first ruled conjointly; but after a short time, P. put Pantagnotus to death, banished Syloson, and made himself sole despot. His energetic, unscrupulous, and ambitious character then showed itself more conspicuously. He conquered several islands of the Archipelago, and even some towns on the Asiatic mainland, waged war successfully against the inhabitants of Miletus, and defeated their allies, the Lesbians, in a great sea-fight. His fleet amounted to 100 ships, and was probably at that time the most powerful in all Greece. P. seems to have aspired to the sovereignty of the Ægean, if not also of the cities of Ionia. His intimate alliance with Amasis, King of Egypt, proves the importance in which this daring island-prince was held even by great monarchs. According to Herodotus, Amasis drew off from his alliance through alarm at the uninterrupted good fortune of Polycrates. He dreaded, we are told, the misfortunes that the envious gods must be preparing for so lucky a mortal, and to which his friends also would be exposed. The particular incident that is said to have finally ruptured the alliance is doubtless mythical, but is too well known to be overlooked. Amasis is reported to have written a letter to P., earnestly advising him to throw away the possession that he deemed most valuable, and thereby avert the stroke of the spleenful gods. P., in compliance with this friendly advice, cast an emerald signet-ring of marvellously beautiful workmanship into the sea; but next day a fisherman presented the 'tyrant' with an unusually big fish that he had caught, and in its belly was found the identical ring. It was quite clear to Amasis now that P. was a doomed man, and he immediately broke off the alliance. So, at least, Herodotus tells the story, but Grote (*History of Greece*, IV. 323) suggests—and the suggestion is far more probable—that P., with characteristic perfidy, abandoned the Egyptian for a Persian alliance, when he found the latter likely to be of more value to him in his ambitious designs. When Cambyses invaded Egypt B.C. 525, P. sent him a contingent of 40 ships, in which he placed all the Samians disaffected toward his 'tyranny,' and told the Persian king privately not to let them come back. However, they escaped in some way or other the fate which P. had designed for them, returned to Samos, and made war against the 'tyrant,' but without success. Hereupon, they went to Sparta, and succeeded in enlisting the sympathies, or, at any rate, in securing the help of both the Spartans and Corinthians. A triple force of Samians, Spartans, and Corinthians embarked for Samos, and attacked the city. After vainly besieging it 40 days, they sailed away, and P. became more powerful than ever; but Nemesis had her victim after all. A certain Orœtes, the Persian satrap of Sardis, had, for unknown reasons, conceived a deadly hatred against P., and having enticed the latter to visit him, by appealing to his cupidity, he seized and crucified him. Thus perished one of the most famous *thalassokrats*, or sea-kings, of Greek antiquity. He was a patron of literature and the fine arts, and had many poets and artists about his court. His intimacy with Anacreon, in particular, is celebrated, and in his praise that joyous bard wrote many songs. To P. also, in all probability, belongs the construction, or at least the enlargement, of those great buildings which Herodotus saw at Samos.

POLYCYSTINA, n. plu. *pŏl'ĭ-sĭs'tĭn-ă*, or POLYCYSTINES, n. plu. *pŏl'ĭ-sĭs'tīnz* [Gr. *polus*, many; *kustis*, the bladder]: an order of the Protozoa having foraminated siliceous shells. POLYCYSTIC, a. *pŏl'ĭ-sĭs'tĭk*, having many cells or small cavities; multilocular.

POLYDIPSIA, n. *pŏl'ĭ-dĭp'sĭ-ă* [Gr. *polus*, many; *dipsa*, thirst]: medical term for excessive thirst: now commonly applied to the disease formerly known as *Diabetes insipidus*, characterized by extreme thirst and by an enormous discharge of pale watery urine. The affection is rare, and the persons most liable to it are dyspeptics who have passed middle life, and whose bodily powers are failing, though it may begin in childhood. The two prominent features of this disease usually lead to the suspicion that true diabetes is present; but the low specific gravity of the urine, and the absence of sugar in it in polydipsia, and the reverse condition in diabetes, seem to make the distinction easy. Dr. Willis, in his work *On Urinary Diseases*, records the case of a man, aged 45, who was admitted for an accident into the Hôtel-Dieu at Paris, and who passed, daily, on an average, 34 lbs. of urine, and drank 33 lbs. of water, the normal daily excretion of urine being a little less than 2 lbs. This person reported that he had been affected in a similar manner ever since his fifth year, and that, from the age of 16, he had daily consumed not less than two bucketfuls of water, and discharged a commensurate quantity of urine. Little can be done for this disease by treatment, further than stimulating the action of the skin by the use of Dover's powder, Turkish baths, etc., and by inducing the patient to take as little drink as may be consistent with his comfort,

POLYEMBRYONY, n. *pŏl'ĭ-ĕm-brī'ō-nĭ* [Gr. *polus*, many; *em'bruon*, an embryo]: in *bot.*, the existence or development of two or more embryos in the same seed. Pol'yembryon'ic, a. *-brĭ-ŏn'ĭk*, having more than one embryo.

POLYFOIL, n. *pŏl'ĭ-foyl* [Gr. *polus*, many, and Eng. *foil*]: in *arch.*, an ornament formed by a molding disposed in a number of segments of circles.

POLYGALA, n. *pŏl-ĭg'ă-lă* [Gr. *polus*, much; *găla*, milk]: extensive genus of plants, all the species of which are showy; type of the order Polygaleæ (q.v.). P. Senega, *sĕn'ĕ-gă* [of or from *Senegal*]: the senega or snake root (see Senega). Polygalic acid, *pŏl-ĭg'ă-lĭk*, an acrid principle obtained from it.

POLYGALEÆ, *pŏl-ĭ-gă'lē-ē*, or Polygalaceæ, *pŏl-ĭ-gā-lā'sē-ē:* natural order of exogenous plants, herbaceous or shrubby, sometimes twining; the leaves without stipules, and generally simple; the flowers resembling papilionaceous flowers, but the odd petal inferior, and the odd sepal superior; the flower-stalks with three bracts; the calyx of five very irregular sepals; of which the two interior are usually petal-like; the corolla of three or sometimes five petals, the anterior petal the largest, and often crested; stamens eight, monadelphous or diadelphous, or four and distinct; the ovary superior, generally 2-celled, one ovule in each cell; style and stigma simple; fruit generally a capsule opening by valves, sometimes a drupe. There are about 500 species, diffused through all parts of the world.—The genus *Polygala* has a persistent calyx, eight stamens, the lateral sepals large and petal-like, and hairy or wrinkled seeds. The species are very numerous, annual and perennial herbaceous plants, and small shrubs, natives chiefly of warm and temperate climates. There are 15 or more species in the United States, several with yellow flowers (s. species), the rest purple, white, or greenish; the best known are the Seneca Snake Root, and the so-called Flowering Wintergreen (*P. paucifolia*), better named the Fringed P. The Common Milkwort of Britain (*P. vulgaris*) is a small perennial plant, growing in dry hilly pastures; with an ascending stem, linear-lanceolate leaves, and a terminal raceme of small but very beautiful flowers, having a finely crested keel. It varies considerably in size, in the size and even shape of the leaves, and in the size and color of the flowers, which are sometimes of a most brilliant blue, sometimes purple, pink, or white.—Several species are natives of s. Europe.—The Cape of Good Hope and other sub-tropical countries produce many beautiful species, some of which have become common ornaments of greenhouses.—*P. Senega* is a N. American species, with erect simple tufted stems, about 12 inches high, and terminal racemes of small white flowers. The root woody, branched, contorted, and about half an inch in diameter, is the Senega Root, Seneka Root, or Snake Root of the United States (see Senega), famous as an imaginary cure for snake-bites, but really possessing important medicinal virtues—stimulating, diuretic, diaphoretic, emmenagogue, and in large doses emetic and purgatives—employed in catarrhs, pulmonary affections, rheumatisms, low fevers, etc. Its chief active principle is Polygalin, Senegin, or Saponin, $C_{18}H_{24}O_{10}$. The root of *P. Senega* has been employed as a cure for snake-bites by the American Indians from time immemorial, and it is noticeable that *P. crotalarioides* is employed in the same way in the Himalaya. *P. vulgaris* is tonic, stimulant, and diaphoretic; and *P. amara*. a very similar European species, possesses the same properties in a higher degree, as does *P. rubella*, a small N. American species. The root of *P. poaya*, a Brazilian species, with leathery leaves, is an active emetic, and in a fresh state is employed in bilious fevers. Similar properties seem to pervade the whole genus. Another medicinal plant of the order is *Rhatany* (q.v.) *root*. Species of several genera are used as tonics. The bark of the roots of *Monnina polystachia* and *M. salicifolia* is used in Peru as substitute for soap. *Mundia spinosa*, a s. African shrub, produces an eatable fruit.

Common Milkwort (*Polygala vulgaris*).

POLYGAMIAN, a. *pŏl'ĭ-gā'mĭ-ăn*, or Polygamous, a. *pŏl-ĭg'ă-mŭs* [Gr. *polus*, many; *gamos*, a marriage]: in *bot.*, pertaining to plants of the class Pol'yga'mia, *-mĭ-ă*, which bear three descriptions of flowers—hermaphrodite, male, and female.

POLYGAMY, n. *pŏl-ĭg'ă-mĭ* [see Polygamian]: the practice or state of having several wives at the same time (see Marriage). Polyg'amous, a. *-mŭs*, having more than one wife at the same time; mating with several females; inclined to polygamy. In *botany*, term applied to plants which produce both unisexual and hermaphrodite flowers either on the same or different plants. In the Linnæan sexual system, these plants formed a class, Polygamia, the genera included in which were perhaps more completely disjoined from their natural allies than those of any other class of that system, forming by themselves a very heterogeneous assemblage. Polyg'amist, n. *-mĭst*, one who practices, or maintains the lawfulness of, polygamy.

POLYGARCHY, n. *pŏl'ĭ-gâr'kĭ* [Gr. *polus*, many; *archē*, rule]: government by many; also Polyarchy.

POLYGASTRIC, a. *pŏl'ĭ-găs'trĭk* [Gr. *polus*, many; *gastēr*, the belly]: having many stomachs; applied to the minute and simple infusoria, formerly called Pol'ygas'trica (see Infusoria).

POLYGENISM, n. *pŏl-ĭj'ĕn-ĭzm*, or Polyg'eny, n. *-ĕn-ĭ* [Gr. *polus*, many; *genos*, kind, race]: the theory which teaches that God created man in different grades, both in savagery and civilization. Polyg'enist, n. *-ĕn-ĭst*, one who believes in the creation of man in different grades. Polygenous, a. *pŏl-ĭj'ĕn-ŭs*, consisting of many kinds.

POLYGLOT, a. *pŏl'ĭ-glŏt* [Gr. *polus*, many; *glōtta*, the tongue]: having or containing many languages: N. in general, an assemblage of versions in different languages of the same work; but used almost exclusively to denote a version of the Bible in several languages. The Hexapla (q.v.) of Origen contained, besides the Hebrew text, several other versions. All these, however, were in the Greek language; and the Hexapla is not commonly reckoned among the polyglots. The polyglots are divided into two classes, the greater and the less. To the former belong four works, known as the Complutensian P.; the Antwerp or king of Spain's P.; the Parisian P.; and the London or Walton's P.—The Complutensian P. derives its title from Complutum, Latin name of Alcala de Henares, where it was printed in 6 vols. folio, 1502–17, being published at the cost, and under the direction of the famous Cardinal Ximenes, who spared no expense, whether in collecting the most ancient and authentic MSS., or in bringing together the most distinguished scholars of all countries for carrying out his design. It contains, besides the Hebrew text, the Septuagint Greek and the Chaldee (each with a literal Latin version), and the Latin Vulgate.—The Antwerp P., so called from its being there printed (8 vols. folio, 1569–72), at the renowned press of Plantin, was published at the cost of Philip II. of Spain, under direction of the distinguished scholar, Benedict Arias Montanus; and contains, in the Old Test., the Hebrew, the Greek, the Targum of Onkelos, and the other Chaldee paraphrases, and the Latin Vulgate: in the New Test., besides the Greek and Latin, it contains a Syriac version, printed both in Syriac and in Hebrew characters. Arias Montanus was assisted by many scholars of eminence, chiefly of Spain and the Low Countries.—The Parisian Polyglot was printed in ten splendid vols. (Paris 1645) at the cost and under the editorship of Guy Michel le Jay; and contains, in addition to the contents of the Antwerp P., another Syriac version, and an Arabic version, together with the Samaritan version and the Samaritan text of the Pentateuch, each accompanied by a literal Latin translation.—The London P. (6 vols. folio, 1654–57) was edited by Brian Walton, afterward bp. of Chester, and it engaged for many years a number of the most eminent linguists of the period. The number of its languages is not the same in all parts of the Bible, but it may be said to contain the Bible, or portions of it, in 9 languages—Hebrew, Samaritan, Chaldee, Syriac, Arabic, Ethiopic, Persic, Greek (each of these accompanied by a literal Latin version), and Latin; and was followed 1669 by *Lexicon Heptaglotton* of Edmund Castell, 2 vols., folio, containing dictionaries of all the languages of the polyglot, except the Greek and Latin. Of the minor polyglots, the chief are (1) the Heidelberg P. (1586), Hebrew, Greek, and Latin; (2) Wolder's P. (Hamburg 1596), Hebrew, Greek, Latin, and German; (3) Hutter's P. (Nürnberg 1599), Hebrew, Chaldee, Greek, Latin, German, and French; (4) Reineccius's P. in Syriac, Greek, Latin, and German (Leipzig, New Test. 1712, Old Test. 1750–1); (5) Bagster's P., very valuable collection of modern versions, folio (London 1831), containing eight versions, in the Old Test.—viz., Hebrew, Greek, English, Latin, French, Italian, Spanish, and German; and nine in the New Syriac being added to the foregoing; (6) a useful 'Hand P.,' containing in the Old Test., Hebrew, Greek, Latin, Vulgate, and Luther's German version; and in the New Test., Greek, Latin, Luther's German, and in the fourth column presenting the chief differences between this and other German versions.

Besides the Bible, many other works, or small pieces, have been published in P. Of smaller pieces, the Lord's Prayer has been the favorite, of which many collections, containing a greater or less number of languages, have been published since the 16th c. Of these, the most comprehensive, and, for philological purposes, far the most valuable, is the well-known *Mithridates* of Adelung, which contains the Lord's Prayer in nearly 500 languages, with vocabularies and grammatical explanations of most of the specimens.

POLYGNOTUS.

POLYGNOTUS, *pŏl-ĭg-nō'tŭs:* distinguished Greek painter of antiquity; born in the Isle of Thasos, near the beginning of B.C. 5 c; d. about B.C. 426; of a family of painters, who came to Athens to practice their profession probably after the subjugation of Thasos by Cimon. P. and his brother, Aristophon, were instructed in the principles of art by their father Aglaophon. We know almost nothing of their lives, except that P. was a friend of the Athenian general Cimon, and is said to have been attached to his sister, Elpinice. P. was a contemporary of the great sculptor Phidias (q.v.), and flourished during the supremacy both of Cimon and of Pericles; but we hear little or nothing of him under the latter ruler; and though he was the first painter of his day, it does not appear that he was engaged in the decoration of any of those splendid buildings with which that statesman adorned Athens. It is not at all unlikely that Pericles was averse to patronizing a friend of Cimon, and, at all events, P. was absent from Athens 14 years (B.C. 449–435) of Pericles's rule, painting at Delphi and elsewhere. His principal works (following a chronological arrangement as far as it can be ascertained) were: 1. Paintings in the Temple of Theseus at Athens. 2. In the Stoa Poecile (or Painted Portico) at Athens, representing the Greek princes after the taking of Troy, assembled to judge of the violation of Cassandra by Ajax. 3. In the Anakeion, or Temple of the Dioscuri, a painting of the marriage of the daughters of Leukippos. 4. In the Temple of Athena Areia at Platæa, a picture of Ulysses after having slain the suitors of Penelope. 5. In the Leschê (or 'Conversazione Saloon'), a famous quadrangular court, or peristyle, surrounded by colonnades, built at Delphi by the Cnidians. The walls of this edifice were covered by P. with a series of paintings representing the wars of Troy, and the return of the Greek chiefs, and considered P.'s masterpiece. 6. In the chamber adjoining the Propylæa of the Acropolis. From the criticism of the ancients, it appears that P. was a great advance on any of his predecessors in the art. He was the first who gave life, character, expression to painting. According to Pliny, he opened the mouth and showed the teeth of his figures; he was the first to paint women with transparent drapery, and with rich head-dresses. Lucian also speaks of his exquisite skill in painting eyebrows and the blush on the cheek; while Aristotle extols the ethical or ideal beauty of his conceptions, saying that P. 'represented men as better than they were,' and finding a parallel for his style in the epic poetry of Homer.

POLYGON, n. *pŏl′ĭ-gŏn* [Gr. *polus*, many; *gōnĭa*, a corner or angle]: plane figure having many sides and angles: the name is conventionally limited to those plane figures whose bounding straight lines are more than *four* in number. Polygons of 5, 6, 7, 8, etc., sides are denominated pentagons, hexagons, heptagons, octagons, etc.; and when the number of sides exceeds 12, the figure is merely mentioned as a polygon of so many sides: the quindecagon, or figure of 15 sides, is the only common exception. Polygons have many general properties; such as, that the sum of the angles of a P., when increased by four right angles, or 360°, is equal to twice as many right angles as there are sides in the P., and that (supposing the number of sides of the P. to be expressed by n) the number of its diagonals is $\frac{n(n-3)}{2}$; also if a P. of an even number of sides be circumscribed about a circle, the sums of its even and odd sides are equal; and if a P. of an even number of sides be inscribed in a circle, the sums of its even and odd angles are equal. A P. which has all its sides and angles equal is called a *regular* P. All polygons of this class are capable of being inscribed in, or circumscribed about, a circle; but though the problem is merely to divide the circumference of a circle into a number of equal parts corresponding to the number of sides in the P., geometry was till lately able to perform it in only those cases where the number of sides of the P. belongs to one or other of the series 2, 4, 8, 16, etc.; 3, 6, 12, 24, etc.; or 5, 10, 20, 40, etc. Gauss (q.v.), however, in the beginning of the 19th c., showed how it could be done in the case of all polygons the number of whose sides was of the form $2^n + 1$ (provided it be a prime number), or a multiple of this prime number by any power of 2. This discovery supplies us with innumerable series representative of the numbers of the sides of polygons which can be described around or inscribed in a circle, e.g., 17, 34, 68, etc.; 257, 514, 1,028, etc. POLYGONAL, a. *pŏl-ĭg′-ō-năl*, or POLYG′ONOUS, a. *-nŭs*, having many angles and sides. EXTERIOR POLYGON, in *fort.*, the figure formed by lines connecting the angles of the bastions with one another. INTERIOR POLYGON, the figure formed by the lines connecting the centres of the bastions. POLYGON OF FORCES, in *mech.*, the name given to a theorem. POLYGONAL NUMBERS, the successive sums of any series of numbers in arithmetical progression.

POLYGONEÆ, *pŏl-ĭ-gō'nē-ē*, or Polygonaceæ, *pŏl-ĭ-gō-nā'sē-ē*: natural order of exogenous plants, mostly herbaceous, but including a few shrubs, and even trees. The leaves are alternate, sometimes without stipules, but generally with stipules cohering around the stem. The flowers are frequently unisexual. They have an inferior, often colored perianth, generally in four, five, or six segments; three to nine stamens inserted into the bottom of the perianth; a one-celled ovary, usually formed of three carpels, but containing only one ovule; styles and stigmas as many as the carpels of the ovary; the fruit generally a nut, often triangular, the seed with farinaceous albumen, which has an economic importance in buckwheat. A few species produce a succulent edible fruit. The order contains nearly 500 known species, natives of almost all parts of the world, but abundant particularly in the temperate regions of the n. hemisphere. Many of the species are common weeds, as different species of Dock (q.v.) and *Polygonum*. Bistort (q.v.), Buckwheat (q.v.), and Sorrel (q.v.) belong to this order.—The genus *Polygonum* has a colored perianth of five segments, stamens in two rows, styles more or less united at the base, and two or more in number; the fruit invested by the persistent perianth. The species are very numerous. Mild Water-pepper (*P. hydropiperoides*), with white or flesh-colored flowers, abounds in many wet places. Jointweed (*P. articulatum*), remarkable for its many-jointed racemes, is found on the coast and the Great Lakes. Knot-grass, Goose-grass, or Door-weed (*P. aviculare*), a very common weed, is one of the plants remarkable for most extensive distribution over the world. It is an annual of very humble growth, but very variable, with much branched trailing stems, small lanceolate leaves, and very small flowers, two or three togther, in the axils of the leaves. Thunberg says that in Japan a blue dye is prepared from this plant. *P. amphibium*, var. *aquaticum*, one of the species often called *Persicaria*, is abundant about margins of ponds and ditches and is remarkable for the difference between the leaves which float on the water, as is often the case, and those on stems growing erect—those of the former being broad and smooth, those of the latter narrow and rough; the spikes of flowers being also of somewhat different form, and the stamens in the flowers of the floating stems shorter than the perianth, in the upright stems about as long as the perianth; differences which might be held to indicate different species, yet both may be found growing from one root. The stems have been used on the continent of Europe as a substitute for sarsaparilla. Some other species are occasionally used for medicinal purposes. *P. hydropiper*, often called Common Smartweed, or Water Pepper, a plant common by sides of lakes and ditches, is acrid enough to be used as a vesicant. Several species are occasionally used for dyeing, as the Lady's Thumb (*P. persicaria*), a common weed, with a dark triangular or crescentic spot in the middle of the leaf; but the only species really important on this account is that called Dyers' Buckwheat (*P. tinc* *torium*), native of China, biennial, with ovate leaves and slender spikes of reddish flowers, the cultivation of which has been successfully introduced in France and Flanders. It yields a blue dye scarcely inferior to indigo.—*P. orientale*, Prince's Feather, has long been occasionally cultivated in flower-gardens in some n. countries, and is quite hardy, though a native of the W. Indies.—*Fagopyrum cymosum*, species of buckwheat abundant on the mountains of n. India, affords an excellent substitute for spinach.—*Mühlenbeckia adpressa* is the Macquarie Harbor Vine of Tasmania, an evergreen climbing or trailing shrub of most rapid growth, sometimes 60 ft. long. It produces racemes of fruit somewhat resembling grapes or currants, the nut being invested with the large and fleshy segments of the calyx. The fruit is sweetish and subacid, and is used for tarts. *Coccolsba uvifera* is the Seaside Grape (q.v.) of the W. Indies. See also Calligonum.

POLYGONOMETRY, n. *pŏl'ĭ-gŏn-ŏm'ĕ-trĭ* [Eng. *polygon*, and Gr. *metron*, a measure]: the doctrine of polygons.

POLYGRAM, n. *pŏl'ĭ-grăm* [Gr. *polus*, many; *grammē*, a stroke in writing—from *graphō*, I write]: a figure consisting of many lines.

POLYGRAPH, n. *pŏl'ĭ-grăf* [Gr. *polus*, many; *graphō*, I write]: an instrument for producing several copies by one act of writing; a collection of the works of one or several authors. Pol'ygraph'ic, a. *-grăf'ĭk*, or Pol'ygraph'ical, a. *-ĭ-kăl*, pertaining to a polygraph, or done by one. Polygraphy, n. *pŏl-ĭg'ră-fĭ*, the art of writing in various ciphers; the art of interpreting or reading documents written in cipher.

POLYGYN, n. *pŏl'ĭ-jĭn* [Gr. *polus*, many; *gŭnē*, a woman]: in *bot.*, a plant having many pistils or many distinct styles. Polygynian, a. *pŏl'ĭ-jĭn'ĭ-ăn*, or Polygynous, a. *pŏl-ĭj'ĭ-nŭs*, having many styles or pistils, as the order of plants Pol'ygyn'ia, *-jĭn'ĭ-ă*.

POLYGYNŒCIAL, a. *pŏl'ĭ-jĭn-ē'shĭ-ăl* [Gr. *polus*, many; *gŭnē*, a woman; *oikos*, a house]: in *bot.*, a term applied to multiple fruits formed by the united pistils of many flowers.

POLYGYNY, n. *pŏl-ĭg'ĭ-nĭ* [Gr. *polus*, many; *gŭnē*, a woman]: the practice of having more wives than one at the same time; polygamy. Polyg'ynist, n. *-ĭ-nĭst*, one who has more than one wife at the same time. Polyg'ynous, a. *-ĭ-nŭs*, pertaining to.

POLYHALITE, n. *pŏ-lĭ'hă-līt* [Gr. *polus*, many; *hals*, salt—in allusion to the number of salts which enter into its composition]: a mineral occurring in compact fibrous masses, usually brick-red or flesh-colored.

POLYHEDRON, n. *pŏl'ĭ-hē'drŏn* [Gr. *polus*, many; *hĕdra*, a seat or base]: a solid body having many faces or sides; in *optics*, a multiplying glass or lens having several plane surfaces disposed in a convex form. Pol'yhe'dral, a. *-drăl*, or Pol'yhe'drous, a. *-drŭs*, having many sides or faces.

POLYHYDRIC AL'COHOLS, *pŏl-ĭ-hī'drĭk:* alcohols having more than one hydroxyl group. The term *Alcohol*, originally limited to one substance—viz., spirit of wine—is now applied to a number of organic compounds, many of which, in their external characters, bear little resemblance to common alcohol. They all, however, are analogously constituted, having the composition of hydrocarbons in which one or more of the hydrogen atoms are replaced by hydroxyl, OH. They may therefore be regarded as compounds of hydroxyl with univalent or multivalent hydrocarbon radicals, hence called alcohol radicals. Thus from propane C_3H_8, are derived the 3 alcohols:

$C_3H_7(OH)$	$C_3H_6(OH)_2$	$C_3H_5(OH)_3$
Propyl alcohol.	Propylene alcohol.	Propenyl alcohol.

Hence alcohols are classed as monohydric, dihydric, trihydric, etc., or generally as monohydric and polyhydric, according to the number of hydroxyl groups that they contain.

POLYHYMNIA, *pŏl-ĭ-hĭm'nĭ-a*, or POLYMNIA, *pō-lĭm'nĭ-a* ('the Many-hymned One'): one of the nine Muses (q.v.). She was reputed by the ancients as the inventor of the lyre, and as presiding over lyric poetry and eloquence. In works of art she is represented usually in a pensive attitude, with the forefinger of the right hand upon the mouth.

POLYKALITE, n. *pŏl'ĭ-kă-līt* [Gr. *polus*, many; and Eng. *alkali*]: a mineral composed of calcic, magnesic, and potassic sulphates, found in the salt-beds of Stassfurt.

POLYMATHY, n. *pŏl-ĭm'ă-thĭ* [Gr. *polus*, many; *mathēsis*, learning—from *manthanō*, I learn]. the knowledge of many arts and sciences; varied knowledge. POLYMATHIC, a. *pŏl'ĭ-măth'ĭk*, pertaining to polymathy.

POLYMERISM, n. *pŏl-ĭm'ėr-ĭsm* [Gr. *polus*, many; *meros*, a part]: in *chem.*, state of a body in which, while the relative proportions of the elements are the same, the absolute number of atoms of each element differs; a variety of Isomerism (q.v.). POLYMERIC, a. *pŏl'ĭ-mĕr'ĭk*, having the character of polymerism. POLYM'EROUS, a. *-ėr-ŭs*, composed of many parts.

POLYMORPH, n. *pŏl'ĭ-mŏrf* [Gr. *polus*, many; *morphē*, a shape]: one of a numerous tribe or series of shells so irregular in form that they cannot be referred to any known genus. POL'YMOR'PHOUS, a. *-mŏr'fŭs*, having many forms; assuming many shapes. POLYMOR'PHY, n. *-mŏr'fĭ*, the existence of several forms of the same organ on a plant, as variously formed leaves.

POLYNE'MUS—POLYNE'MIDÆ: see MANGO FISH.

POLYNESIA, n. *pŏl-ĭ-nē'shĭ-a* [Gr. *polus*, many; *nēsos*, an island]: that which consists of many islands; term applied to groups of islands mostly tropical in the Pacific. POLYNE'SIAN, a. *-zhan* or *-shan*, pertaining to Polynesia.

POLYNESIA, *pŏl-ĭ-nē'shĭ-a:* name usually given, with more or less limitation, to the numerous groups of islands, and a few single islands, scattered throughout the great Pacific Ocean. In its widest signification the term P. might be understood as embracing, besides the groups hereafter to be mentioned, the Malay or Indian Archipelago, and Australia. Including these the whole region has sometimes been called Oceania; and in this wide sense the term Australasia (q.v.) is also used, though generally in a narrower range. It is, however, usual now to exclude from Polynesia the whole Malay Archipelago (q.v.) Australia (q.v.), Tasmania (q.v.), and New Zealand (q.v.); and to apply the term at most to the islands n. and s. of the equator, extending from Papua or New Guinea on the west to Easter Island, 2,400 m. from the S. Amer. coast. This is P. in the widest sense in which it is now customary to apply the word; and these islands and groups of islands are now usually subdivided (on ethnological and other grounds) into three distinct areas or series: (1) *Melanesia* [named from the *black* inhabitants; Gr. *melas*]; comprising Papua, the Admiralty Islands, the New Britain group, the Solomon Islands, the New Hebrides, and Santa Cruz groups, New Caledonia and the Loyalty Islands, and farthest e. the Fiji Islands. The Melanesian islands are mostly mountainous, fertile, with a warm, moist climate, and are occupied by people of the frizzly-haired Papuan race (see PAPUA), mixed in the w. with the Malay stock, and in the e. with the true Polynesian blood. Some of the islands are volcanic; many are surrounded by coral reefs. Ethnologically the large islands of Timor and Flores, in the Malay Archipelago, might be ranked in Melanesia, as being inhabited by a Papuan people. (2) *Micronesia* includes the islands [all small—Gr. *mikros*—whence the name] n. of the equator from 130° e. to 180° e.: the principal groups are Marshall Islands, Gilbert or Kingsmill Islands, the Caroline Islands, Pelew Islands, and the Ladrones or Mariana Islands. These also are partly volcanic or mountainous, partly low and coralline. The Marshall and Gilbert Islands all are low and flat. Most of these are inhabited by fair Polynesians, mingled in some places with Malay or negrito blood. (3) *Polynesia*, in the stricter sense, comprises the other groups of islands e. of Fiji: the principal are the Tonga or Friendly Islands, the Samoa or Navigator's Islands, Savage Island, the Ellice and Union Islands, Cook's or Hervey's Islands, the Society Islands (with Tahiti), the Austral Isles and Low Archipelago (Paumotu or Tuamotu, called also Pearl or Dangerous Islands), Pitcairn and Easter Islands, the Marquesas, Manihiki or Penrhyn, the America and Phœnix groups, and, farthest n., Hawaii, or the Sandwich Islands. These, whether volcanic or coral isles, are the home of the true or fair Polynesian race described below.

In all the three sub-divisions are both high and low islands. The high volcanic or mountainous ones comprise most of the Melanesian islands; some of the Micronesian ones; and among the more strictly Polynesian islands, the Friendly group (Tahiti having a mountain 7,500 ft. high), the Marquesas, the Samoan group, and the Sandwich Islands (Hawaii having active volcanic craters from 11,000 to near 14,000 ft. high). The climate varies according to situation and other circumstances, but in very many it is exhilarating, healthful, and delicious. A large proportion of the high islands are luxuriantly fertile (though some are comparatively barren), with enchanting scenery.

The Coral Islands (q.v.) may be distinguished into three classes—namely, atolls or lagoon islands, barrier reefs, and fringing reefs. The atolls are rings of coral reefs, inclosing a basin of sea-water of considerable depth. Examples of these are found in the Caroline Islands, the Dangerous Archipelago. and several other groups. Barrier reefs differ from the atolls chiefly in the fact of their containing an island in their centre, the island being separated from the reef by a body of deep water; while the reef is in some instances entirely converted into land, and in others the sea washes over it, except in certain portions, which project above the level of the ocean. Barrier reefs occur among the Society Islands, the Gambier Islands, and many other groups. Fringing reefs are collections of coralline formation, which are found skirting the coasts of an island in the same manner as the barrier reefs, but wthout any interior deep water channel. They are found in almost all the groups. From the fact of some of these islands being undoubtedly volcanic, it has been argued that all were originally of the same character; those of coralline formation being based upon the crests of submarine volcanoes, over which the coral insects have for an indefinite series of years been rearing their limestone structures. In opposition to the received volcanic theory, Darwin propounded one of his own—namely, the *theory of subsidence,* which, after mature consideration, he deems the only one adequate to explain the various phenomena observable in the coral atolls, barrier reefs, and fringing reefs of the Pacific. All these he considers as being the production of saxigenous insects, working upward from the foundations of what were originally so many islands, erect above the surface of the ocean, but which during long ages have been in a state of gradual subsidence. With respect to the atolls, he states his belief that the lagoon is precisely in the place which the top of a shoal, and, in other cases, the highest part of an island, once occupied. So soon as these have sunk to a depth of 120 to 180 ft. below the surface, the coral insects (which it is agreed are never found at a lower depth) commence their operations, and these working on in countless myriads, the sunken island, or a portion of it, is in process of time again reared to the level of the surrounding sea. It must, however, be noted that this subsidence theory (ultimately accepted by Lyell and other distinguished geologists) is rejected by Murray of the *Challenger* expedition, and by Semper and other Germans. Murray holds that the island-building corals have begun to build on the tops of volcanic islands which happened to be at the level convenient for the polyps. They would, of course, build up to the surface of the water and then build outward. The corals being dependent for food on the ocean would thrive only on the outer edge of a fully formed reef, those on the inner side of the reef would die out. Hence fringing reefs, barrier reefs, and atolls, according to circumstances. Possibly this and Darwin's theory are not mutually exclusive, but may supplement one another.

Though the islands generally are within the tropics, the heat of the atmosphere is delightfully tempered by a succession of land and sea breezes. The soil is exceedingly fertile, and besides the vegetable productions found growing when the islands were first discovered by Europeans, it has given welcome to the orange, lemon, sugar-cane, guava, cotton, potato, melon, and other fruits and plants introduced by foreign visitants. The only native quadrupeds on any of the islands when first visited were pigs, dogs, and rats; but the ox, the sheep, the goat, and even the horse, have since been successfully introduced into many of the groups. The feathered tribes are numerous, likewise insects, and the coasts everywhere abound with a vast variety of fish and crustacea, highly important for food to the inhabitants of those islands in which quadrupeds, native or introduced, are few.

For more particular description of the several groups, see Fiji Islands: Friendly Islands: Sandwich Islands: etc.

Melanesia is inhabited mainly by the frizzly-haired, bearded, energetic, impulsive, demonstrative, and often fierce and savage Papuan race (see Papua): these peoples, nearly quite black, are easily distinguished alike from Malays (q.v.) and from the brown Polynesian race, found in all the islands of Polynesia proper and in New Zealand (q.v.), and, less pure, in Micronesia also. The negroid-looking Melanesians stand lower in the scale of civilization than the Polynesians; their women hold less honorable position; their institutions are ruder and their customs more savage, cannibalism being almost uniyersal; though they have considerable artistic skill. Their languages differ much among themselves, but are well marked off from the Polynesian tongues. The Mahori stock, the fair or brown Polynesians, are of remarkably pleasing figure and of joyous temperament. In stature fully equal to Europeans, they are well and proportionately built. They are of copper-brown complexion, ranging from lighter to deeper hues. The forehead is in general rather high and open. The hair is long, smooth, dark brown or black, inclining to be curly, but altogether unlike either the frizzled mop of the Melanesians or the straight black hair of the Malays; the beard is slight. The face is oval, lighted up with large dark eyes. The nose is generally short and flat compared with that of Europeans. The mouth is large, the teeth fine. A cheerful and joyous temper is favored by the warm and healthful climate and the easy means of living, a temper ever ready to vent itself in dancing and singing. The praise of punctilious cleanliness, and of a taste for neatness and order quite exceptional among savages, is due to this people. The women consort as equals with the men, and have only the lighter and feminine tasks relegated to them, of mat, tapa-cloth, and basket making, of fruit-gathering and fishing. Capt. Cook describes the people as 'liberal, brave, open, and candid.' They are ceremonious and stately in many of their customs; yet withal they lived in a state of unmisgiving sensuousness or sensuality. When civilization therefore at last came to them, it found them defenseless against its vices. The use of the intoxicating drink kava, kawa, or Ava (q.v.) prevails, or, till superseded by European and American spirits, prevailed in almost all the Polynesian islands and in Fiji. For the *tabu* institution, also widely in force, see TABU. The languages of the Polynesians are dialects of one common tongue, distinct in structure as in vocabulary from the Malay languages, and having but distant relations to the Melanesian group.

All the true Polynesians affirm that their original home was in Savaii, presumably the largest of the Samoan islands, which bears that name. For a discussion of this tradition, see MAORIS. Formerly it was commonly held, as by Latham's followers, that the brown Polynesians or Mahoris are Malay in blood, and that they came from Malaysia. Wallace, who holds them ethnologically and linguistically quite distinct from the Malays, is nevertheless of opinion that at some very remote epoch they did come from some part of s. Asia, and partly displaced and partly mingled with the aboriginal Melanesians. Lesson (*Les Polynesiens, leur Origine, leurs Migrations, leurs Langages*, 4 vols., 1881–85) endeavors to prove that New Zealand is really their original seat, and finds affinities for them with Dyaks and Bataks, with some Cambodian races, the Malagasy, and even African tribes. An old assumption was, that they are of American descent—a view now wholly given up.

The Polynesians have generally a government by chiefs, and a rude polytheism under the care of priests, with lofty temples on mounds. Their religious rites scarcely recognize human sacrifices, and cannibalism is on the whole rare, and habitual nowhere. The benignity of their temper extends to the care of the sick and aged, while an uncalculating hospitality is universal. The dress is scant and simple, yet on state occasions the chiefs are arrayed in the folds of the beautiful tapa-cloth. Tattooing (q.v.) is or was common among the men.

They have no metals and no pottery, and all their cooking is done by baking, generally in the holes of the earth. Their houses are oval, with strong roofs of rafters and thatch. They yet display remarkable taste in their manufactures and mode of living. They weave mats of exceeding delicacy, and beat out bark-cloth to the thinness of white paper, joining the pieces together into rolls of hundreds of yards long, ornamented variously and beautifully. Their bowls and plates of wood, their cups and bottles of cocoa-nut, the handles of their tools and clubs and paddles, all are carved with marvellous taste. Their canoes, sometimes over a hundred ft. long, and taking many years to make, are particularly ingenious and strong. The Polynesians are fearless sailors, freely venturing on voyages of many hundreds of miles from their homes.

But with the progress of 'civilization,' this description is unhappily ever becoming less and less applicable to an ever-diminishing population. When discovered by Europeans more than a hundred years ago, the Polynesians were a very healthy and populous people; now they are everywhere rapidly decreasing in numbers. Captain Cook believed the war-canoes of the Society Islands to be manned by 68,000 men; the total pop. of that group is now 9,000. The inhabitants of the Tonga Islands (1847), 40,000 or 50,000, are now only about 10,000. The Marquesas Islanders, reckoned (1850) 50,000, are now less than 4,000.

Melanesian, Micronesian, and Polynesian islands almost all are more or less directly under European influence; and there has of late been new rivalry in this region. In Melanesia, Great Britain has annexed most of the s. shore of New Guinea, the Louisiade and D'Entrecasteaux Islands, and occupies Fiji and Rotuma; in Polynesia Britain possesses, besides New Zealand, only the small guano isles of Malden and Starbuck, with the Fanning atoll. The w. part of New Guinea is Dutch. Germany has great influence in many of the Pacific islands, the trade of many being mainly in German hands. Germany has annexed the n.e. shore of New Guinea, and secured the Admiralty Islands and New Britain; it has a coaling station in Tonga, and much authority in Samoa—which was said to have put itself under an American protectorate. The French hold the Loyalty Islands and New Caledonia (the latter as a convict settlement), and have alarmed the Australians by proposing to extend their penal stations in this region; they also exercise a protectorate over the Society and Marquesas Islands, and the Low Archipelago and the Tubuai or Austral Isles. Since 1844, the Hawaiian group has been recognized as a constitutional monarchy, influenced mainly by the United States. The Ladrones in Micronesia are Spanish; the Gilbert, Marshall, and Caroline Islands have been practically ruled by missionaries from the United States. The Pacific Islands have long been a favorite field of Christian missions; Fiji is now a centre of Christian civilization, and in many others marvellous influence for good has been exerted. The London Missionary Soc. (Congl.), the missions of the Church of England, the Wesleyans, the American Board of Missions, and the Presb. Churches of Scotland and Canada, all have active work in one or more districts. See MISSIONS, CHRISTIAN.

POLYNOMIAL, n. *pŏl'ĭ-nō'mĭ-ăl* [Gr. *polus*, many; *on'ŏma* or *on'uma*, a name]: an algebraic quantity consisting of many terms: Adj. pertaining to; containing many terms or many names. Polyonomous, a. *pŏl'ĭ-ŏn'ō-mŭs*, having many names or titles. Polyon'omy, n. *-ō-mĭ*, or Polyon'ymy, n. *-ĭ-mĭ*, variety of different names; the description of the same object under several names. Polyonym, n. *pŏl'ĭ-ō-nĭm*, an object that has different synonyms by which it may be expressed.

POLYOPTRON, n. *pŏl'ĭ-ŏp'trŏn*, or Pol'yop'trum, n. *-trŭm* [Gr. *polus*, many; *optikos*, belonging to the sight; *opsŏmai*, I shall see; *horaō*, I see]: a glass with a lens so formed that, when it is looked through, objects appear multiplied, but diminished in size.

POLYORAMA, n. *pŏl'ĭ-ō-râ'mă* [Gr. *polus*, many; *hor'āma*, what is seen]: a view of many objects.

POLYP, or Polype, n. *pŏl'ĭp* [F. *polype*—from L. *pol'ypus;* Gr. *pol'upous*, a polypus—from Gr. *polus*, many; *pous*, a foot]: one of those radiate animals which are furnished with many tentacula or foot-like organs surrounding the mouth or free orifice (see Polypi); an individual of the actinozoa or group of sea-anemones.

POLYPARY, n. *pŏl'ĭ-păr-ĭ*, or Pol'ypa'ria, n. plu. *-pā'rĭ-ă* [L. *polypus*, a polypus]: a coral so called because produced by polyps; the hard chitinous covering secreted by many of the Hydrozoa. Polyparous, a. *pŏl-ĭp'ă-rŭs*, producing many.

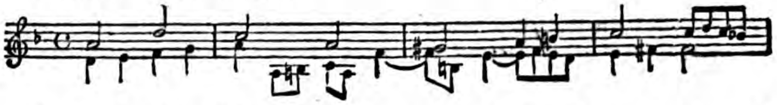
POLYPETALOUS, a. *pŏl'ĭ-pĕt'ă-lŭs* [Gr. *polus*, many; *pet'alon*, a leaf]: in *bot.*, having many petals; having the petals of the corolla perfectly distinct and not cohering.

POLYPHAGOUS, a. *pŏl-ĭf'ă-gŭs* [Gr. *polus*, many; *phagein*, to eat]: omnivorous; dependent on different kinds of food.

POLYPHE'MUS: genus of *Branchiopoda* (q.v.), of order *Cladocera*, remarkable for extraordinary size of the solitary eye (really double), which occupies almost the whole head. One species, *P. stagnorum*, is common in stagnant pools and ditches. It is about the size of a flea, and moves rapidly in the water, with all kinds of evolutions, employing both its legs and antennæ as organs of swimming. The shell, consisting of two pieces, is so transparent that all the viscera may be seen through it. The abdomen is terminated by a long tail suddenly folded back.

POLYPHEMUS, *pŏl-ĭ-fē'mŭs*, in the Homeric Mythology: most celebrated of the fabulous Cyclops (q.v.), who inhabited the island of Sicily; son of Poseidon and the nymph Thoosa. He was of immense size, and had only one eye. When Ulysses landed on that island, he entered the cave of P. with 12 companions, of which number this tremendous cannibal ate six. The others stood expecting the same fate, but their cunning leader made P. drunk, then burned out his single eye with a blazing torch, and so escaped, leaving the blinded monster to grope about in the darkness.

POLYPHONY, n. *pŏl-ĭf'ŏ-nĭ*, or POLYPH'ONISM, n. *-ŏ-nĭzm* [Gr. *polus*, many; *phōnē*, a sound]: the multiplication of sounds or voices, as in the reverberation of an echo. POLYPH'ONOUS, a. *-nŭs*, or POLYPHONIC, a. *pŏl'ĭ-fŏn'ĭk*, having many sounds or voices, or assuming them. Applied to a musical composition of two or more parts, each of which has an independent melody of its own; in distinction from a homophonic composition, consisting of a principal part with a leading idea, and accessory parts employed to strengthen it. Each part of a polyphonic composition aims at melodic perfection, and while supporting the other, has an equal share in the entire effect, as in the following example:



A Fugue (q.v.) is the most perfect example of polyphonic composition. The difference between homophonic and polyphonic compositions is not always so marked as to leave it free of doubt whether a part is subordinate or independent; and many compositions consist of an alternation of homophonic and polyphonic passages. The construction of polyphonic phrases is called Counterpoint. POLYPHONIST, n. *pŏl-ĭf'ŏ-nĭst*, one who professes the art of multiplying sounds; a ventriloquist.

POLYPHORE, n. *pŏl'ĭ-fōr* [Gr. *poluphoros*, bearing much; Gr. *polus*, many; *phoros*, bearing]: in *bot.*, a fleshy receptacle with many ovaries—as in the strawberry and raspberry.

POLYPHYLLOUS, a. *pŏl'ĭ-fĭl'lŭs* [Gr. *polus*, many; *phullon*, a leaf]: composed of many subordinate pieces or leaves: many-leaved. POL'YPHYL'LY, n. *-fĭl'lĭ*, the increase in the number of organs or leaves in a whorl.

POLYPI, *pŏl'ĭ-pī*, or **POLYPS**, *pŏl'ĭps:* class of animals which were, till recent years, included in the RADIATA of Cuvier, but which, since the Radiata have ceased to be regarded as a sub-kingdom, have found a place in the subkingdom CŒLENTERATA: see SUB-KINGDOMS, ANIMAL. The name *Polypi*, or *Polyps*, was given by Reaumur about the middle of the 18th c. to these animals, on account of their external resemblance to the many-armed cuttle-fishes which were so denominated by Aristotle; and our knowledge of these organisms, as members of the animal kingdom, dates back little beyond a century. All P. are aquatic in their mode of life, and almost all are inhabitants of the sea, two genera only (*Hydra* and *Cordylophora*) of freshwater P. being as yet known. Most of them live in societies of considerable extent, supported on a common stock, to which the term *polypidom* (polyp-home) is usually given, and which is sometimes horny, sometimes calcareous. The P. are either embedded in cavities in the substance of the calcareous polypidom, or inclosed in minute cups or tubes, from which the body can be protruded, and into which it can be retracted at pleasure, in the horny polypidoms. The solitary species often attain considerable size (e.g., many of the Actinias); but the social P. are always minute, though the combined power of some of the species in modifying the earth's crust is neither slight nor limited in extent. 'They have built up a barrier reef along the shores of New Caledonia for a length of 400 m.; and another, which runs along the n.e. coast of Australia, 1,000 m. in extent. To take a small example: a single atoll (or coral island) may be 50 m. in length by twenty in breadth; so that if the ledge of coral rock forming the ring were extended in one line, it would be 120 miles in length. Assuming it to be a quarter of a mile in breadth, and 150 feet deep, here is a mound, compared with which the walls of Babylon, the great wall of China, and the pyramids of Egypt are but children's toys; and built, too, amid the waves of the ocean, and in defiance of the storms.'—Owen, *Lectures on the Invertebrate Animals*, 2d ed., p. 143. It is a stubborn error that speaks of them as 'insects that build the coral reef.' They are not insects, and do not build except as we build our bones.

The bodies of these animals are generally soft, and cylindrical or oval in shape; and the mouth, which is the only aperture of the digestive canal and is quite destitute of any masticating apparatus, lies in the centre of the anterior or free extremity of the body, and is surrounded by a fringe or circle of tentacles or arms. The skin in the social P. is exceedingly soft and delicate; but in the solitary species it is often leathery. It almost always contains peculiar urticating organs, or thread-like cells, which may be regarded as one of the distinctive characters of the Cœlenterata. Various arrangements of the P. have been proposed, but it is sufficient for all practical purposes if we admit two orders—the *Hydrozoa* and the *Anthozoa* (or *Actinozoa*), which differ essentially in the following points: in the *Hydrozoa*, the wall of the digestive sac is not separated from that of the somatic (or bodily) cavity, and the reproductive organs are external; while in the *Anthozoa*, the wall of the digestive sac is separated from that of the somatic cavity by an intervening space, subdivided into chambers by a series of vertical partitions, on the faces of which the reproductive organs are developed. The HYDRA (q.v.), or Fresh-water Polyp, is the type of the *Hydrozoa;* it is so small as to be easily overlooked. A few of these P. are simple animals, e.g., *Hydra, Corymorpha, Vorticlava,* and *Myriothela;* but the greater number are compound or composite, exhibiting a numerous colony connected with one another by a common trunk or *cœnosarc* [from Gr. *koinos*, common, and *sarx*, flesh], which usually presents an erect tree-like form. For form and structure of the *simple* P. of the class, see HYDRA: see also the accompanying figure of *Corymorpha nutans*, which attains a length of four or five inches, and was discovered by Forbes and Goodsir when dredging in n. Scotland. They observe, that when it was placed in a vessel of sea-water, it presented the appearance of a beautiful pink flower, its head gracefully nodding (whence the specific name given to it by Sars, who had previously discovered it on the Norwegian coast), and bend-

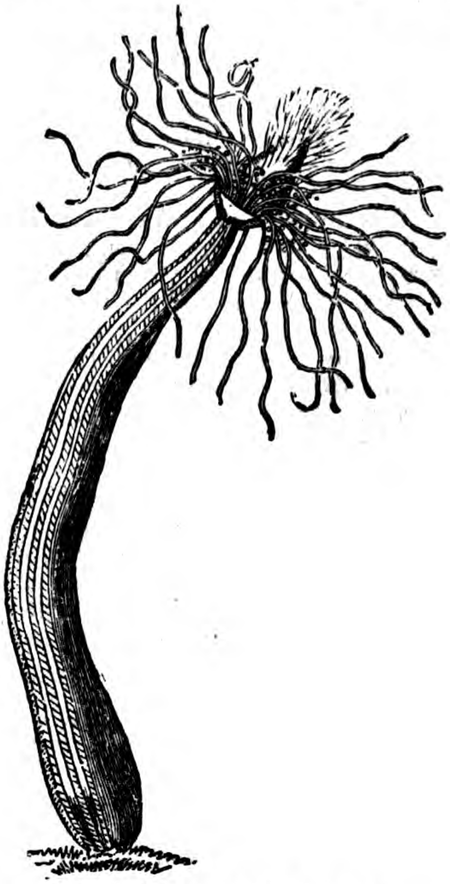


Fig. 1—Corymorpha nutans.

ing the upper part of the stem; it waved its long white tentacles to and fro at pleasure, but seemed to have no power of contracting them. The *compound* Hydrozoa include, *inter alia*, the orders *Sertularidæ* (embracing the various species of *Sertularia*, *Campanularia*, *Laomedea*, etc.) and *Tubularidæ* (embracing the various species of *Tubularia*, *Eudendrium*, *Bimeria*, etc.). A good idea of the nature of the compound Hydrozoa may be formed from the consideration of the *Campanularia dichotoma*, a common organism on some shores. The compound polyp-animal, or association of P., resembles a miniature tree. It consists essentially of a ramified tube of irritable matter, *f*, defended by an external flexible, and frequently jointed horny skeleton, *a;* and is fed by the activity of the tentacula, *d*, and by the digestive powers of the alimentary sacs (*g*) of a hundred polypi, the common produce of which circulates through the tubular cavities for the benefit of the whole community. The soft integument of the nutrient P. (*d, e, g*) contains the thread-cells, above alluded to: these are protruded when the skin is irritated, and give the tentacles the appearance of being beset by minute bristles. The digestive sac of each polyp is lined by a ciliated epithelium; but there is a perforation at the base communicating with the central tube, *f*. This outlet admits only of the passage of the fluid contents of the stomach, undigested matters being ejected by the mouth. There is reason to believe that sea-water enters the branches of the tube *f*, and circulates by means of the ciliated epithelium, through the compound organism; and by this means contributes to the respiratory process. 'At certain points of these ramified polyps,' says Prof. Owen, 'which points are constant in and characteristic of each species, there are developed little elegant vase-shaped or pod-shaped sacs, which are called the ovigerous vesicles,

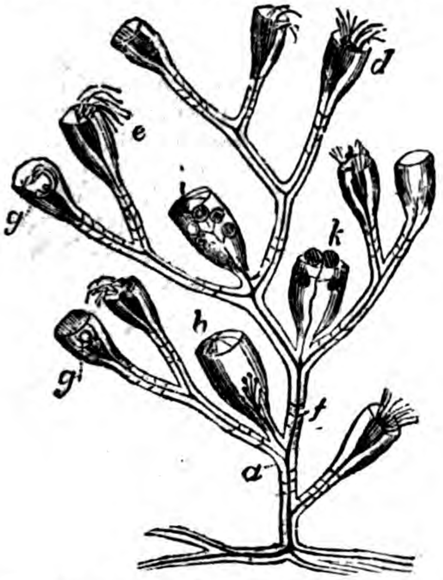


Fig. 2.—Campanularia dichotoma, magnified.

or *oviscapsules.* These are sometimes appended to **the** branches, sometimes to the axillæ, as at *h, i, k* (in fig 2). They are at first soft, and have a still softer lining membrane, which is thicker and more condensed at the bottom of the vesicle. It is at this part that the ova or germs are developed, and for some time these are kept in connection with the vital tissue of the polyp by a kind of umbilical cord. In all the compound *Hydrozoa,* the ovicapsules are deciduous; and having performed their functions in relation to the development of the new progeny, drop off like the seed-capsules of plants.' On other individuals of the same species, sperm-capsules are developed, which, in form, resemble the ovicapsules, but in place of ova, contain spermatozoa. The act of fertilization in most cases occurs by diffusion of the spermatozoa in the surrounding water. There is much that still requires elucidation in reference to the various modes of reproduction of this class. Many of the Hydrozoa have been shown to be merely larval forms of Medusæ: see GENERATIONS, ALTERNATION OF.

The leading anatomical distinction between the *Anthozoa,* or *Actinozoa,* and the *Hydrozoa* has been already noticed. The common *Actinia* (q.v.) may be regarded as the type of this class, all of which are marine, inhabiting principally the warmer or tropical seas. Many of the larger tropical P. of this class combine with a structure similar to that of the Actinia an internal calcareous axis or skeleton, which, penetrating into the interior of the organism, presents the lamellated and radiated structure recognizable in the *Fungiæ,* and in the skeletons of *Caryophyllæ, Madreporæ,* etc. Such Anthozoa are termed coralligenous; and every hard structure deposited in or by the tissues of this class, and forming a uniform framework, is recognized by zoologists as a coral. Like the members of the preceding class, many of the Anthozoa multiply freely by gemmation, complex or compound animals or colonies of animals being formed, in which individual P. are united by a cœnosarc or polypidom. For a description of the mode in which communication takes place between the common body or mass and the individual P., see ALCYONIUM. Various arrangements of this class have been proposed by zoologists. If we exclude the fossil genera, we may divide the Anthozoa into two orders—*Alcyonaria* and *Zoantharia.*

The *Alcyonaria* may be characterized as Anthozoa in which each polyp is furnished with eight tentacles, not simple, as in Actinia, but with pinnate margins, with eight somatic chambers and eight mesenteries. With the exception of one genus, they all are composite in structure; their P. being connected by a cœnosarc traversed by prolongations of the somatic cavity of each polyp, a system of canals being thus formed whose parts freely communicate and are readily distensible. Carus, mainly adopting Milne-Edwards's arrangement, divides the Alcyonaria into three families: 1. *Alcyonidæ;* 2. *Gorgonidæ* (Sea-fans); 3. *Pennatulidæ* (Sea-pens). (For more recent classification of Hydrozoa and Actinozoa, see ZOOLOGY—*Cœlenterata.*) In the *Alcyonidæ*, Carus includes the beautiful organ-pipe corals, of which Green and others make a separate family. The polypidom constructed by *Tubipora musica* consists

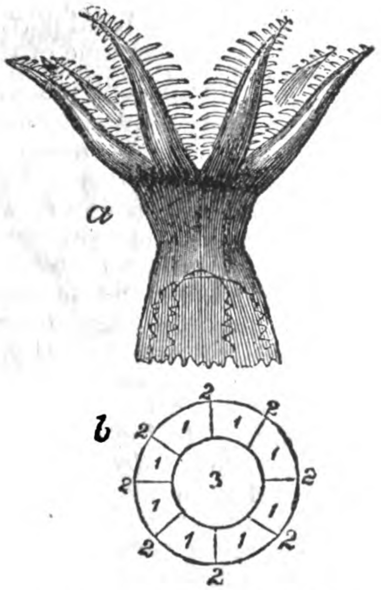


Fig. 3.—Diagram illustrating the Morphology of Anthozoa: *a*, polyp of *Alcyonium;* *b*, ideal section of the same; 1, 1, 1, etc., the somatic cavity, divided by the mesenteries, 2, 2, 2, etc., into eight chambers; 3, the digestive cavity.

of successive stages of cylindrical tubes of rich crimson color, united at various heights by horizontal connecting

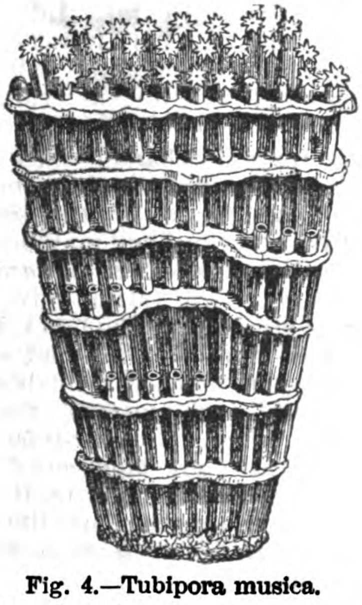


Fig. 4.—Tubipora musica.

plates. The tubes placed upon the upper stage are alone inhabited by living P., of violet or green color, the occupants of those below having successively perished as fresh generations appeared above them. An example of the *Gorgonidæ* is *Isis hippuris*, in which the skeleton is made up of alternate joints of calcareous and horny matter, to give necessary flexibility. In *Pennatulidæ*, the polypidom is free, and no P. are attached to its basal portion. The *Sea-pens* (*Pennatulæ*) afford a good example of this family: see PENNATULA for description and figure.

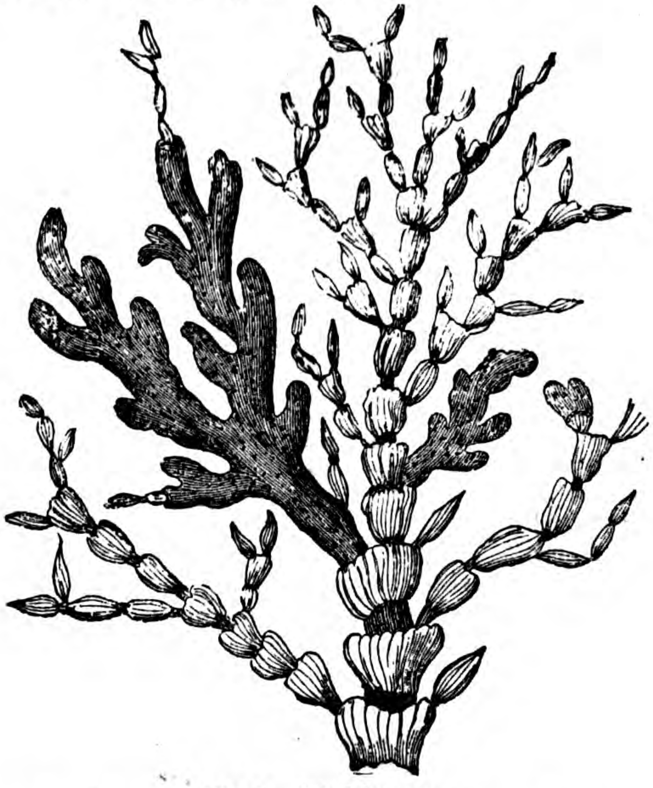


Fig. 5.—Isis hippurus.

The *Zoantharia* may be characterized as Anthozoa in which the tentacles are either simple or branched, in general numerous, and together with the mesenteries, disposed in multiples of five or six. They may be arranged in the three following sub-orders--1. *Z. Malacodermata;* 2. *Z. Sclerobasica* or *Antipatharia* (Milne-Edwards); and 3. *Z. Sclerodermata* or *Madrepores*. The first sub-order has been variously subdivided into families and sub-families. It contains all the sea-anemones and animals allied, including genera *Actinia*, *Anthea*, *Corynactis*, *Capnea*, *Adamsia*, *Ilyanthus*, *Sagartia*, *Bunodes*, *Edwardsia*, *Peachia*, etc.; and the *Zoanthidæ*, which are aggregated P. arising from a common creeping root-like fleshy band. All the members of the second sub-order are composite structures. *Antipathes*, type of the group, presents a stem-like, simple, or branching cœnosarc, which in one species tapers to a length of more than nine ft., with a diameter, at the base, not exceeding three-tenths of an inch. The third sub-order (*Madrepores*) is very extensive. It is divided into

Madrepora aporosa and *M. perforata*, according as the coral exhibits a solid or a porous structure. *M. aporosa* may be arranged in the following families—1. *Turbinolidæ* (including sub-families *Caryophyllinæ* and *Turbinolinæ*); 2. *Oculinidæ;* 3. *Astræidæ;* 4. *Echinoporinæ;* 5. *Merulinaceæ;* 6. *Fungidæ:* while the *M. perforata* are divided into (1) *Madreporidæ* and (2) *Poritidæ*. For a few of the commoner forms of Madrepora, see CORAL: MADREPORE.—See Dana, *Structure and Classification of Zoophytes*, and other works; Johnston, *British Zoophytes;* Milne-Edwards and Haime, *Histoire Naturelle des Coralliaires ou Polypes;* Lacaze-Duthiers, *Histoire Naturelle du Corail;* Greene, *Manual of the Cœlenterata;* Hincks, *British Hydroid Zoophytes*—excellent and well-known monograph; Gegenbaur, *Comparative Anatomy;* the works of Huxley, Agassiz, Claus, Hertwig, and Haeckel; and many papers or communications in transactions of learned societies.

POLYPIDE, n. *pŏl'ĭ-pĭd* [L. *pol'ypus*, a polypus; Gr. *polus*, many; *pous* or *poda*, a foot]: in *zool.*, the separate zooid of a Polyzoon. POLYPITE, n. *pŏl'ĭ-pīt*, the separate zooid of a Hydrozoon; a fossil coral. POLYPIDOM, n. *pŏl-ĭp'ĭ-dŏm* [L. *domus*, a house]: one of the stems or fabrics containing the polyps or animals which construct them; a coral; the dermal system of a colony of the Hydryzoa or Polyzoa.

POLYPIFER, n. *pŏl-ĭp'ĭ-fėr* [L. *pol'ypus*, a polypus; *fero*, I bear]: that which produces polypi. POLYPIFEROUS, a. *pŏl'ĭp-ĭf'ėr-ŭs*, bearing or producing polypi.

POLYPITE: see under POLYPIDE.

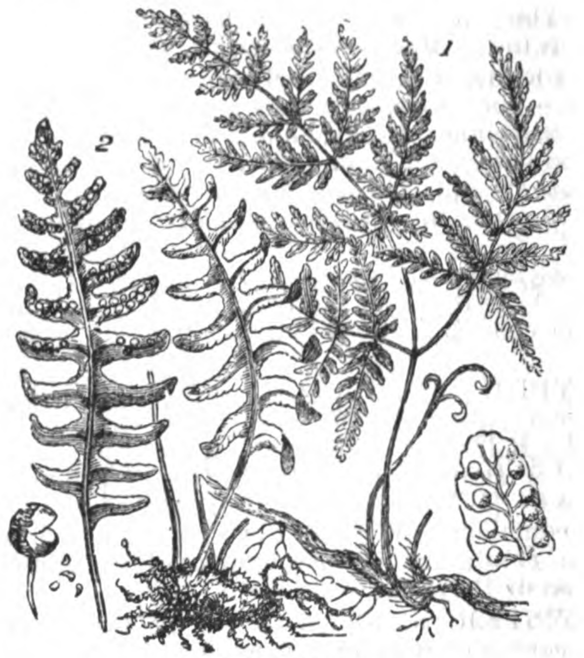
POLYPODE, n. *pŏl'ĭ-pŏd* [Gr. *polus*, many; *pous* or *poda*, a foot]: an animal with many feet; the millepede.

POLYPODY, n. *pŏl'ĭ-pŏd'ĭ* [Gr. *polus*, many; *pous*, or *poda*, a foot]: fern of genus *Polypodium*. POLYPO'DIUM, genus of ferns, with spore-cases on the back of the frond, distinct, ring-shaped, in roundish *sori*, destitute of *indusium*. About 400 species are known, some of which differ considerably in appearance: only 9 species are known in N. America. The most common in England and the United States is *P. vulgare:* it grows on rocks, trees, dry banks, etc., and has fronds 2–18 inches long, deeply pinnatifid, with large sori.—*P. Dryopteris*, with delicate ternate bipinnate fronds, is a fine ornament of dry stony places in Scotland. *P. Calaguala*, native of Peru, is said to have important medicinal properties—solvent, deobstruent, sudorific, etc.

POLYPOROUS, a. *pŏl-ĭp'ŏ-rŭs* [Gr. *polus*, many; *poros*, a passage; *poroi*, pores of the skin]: having many pores; ethmoid; descriptive of those species of fungi found in pastures, on trunks of trees, etc., whose under surfaces are full of pores. POLYPORITES, n. plu. *pŏl-ĭp'ŏ-rīts*, fossil fungus-like organisms found in certain Coal-measures. POLYPORUS, very large genus of hymenomycetous fungi, type of ord. *Polyporiaceæ;* see AMADOU; DRY ROT,

POLYPOUS: see under Polypus.

POLYPRISMATIC, a. *pŏl′ĭ-prĭz-măt′ĭk* [Gr. *polus*, many, and Eng. *prismatic*]: in *min.*, having crystals presenting numerous prisms in a single form.



Polypodium:
1, P. dryopteris; 2, P. vulgare.

POLYPTERUS, *pō-lĭp′tē-rŭs:* genus of fishes, ranked by Cuvier among malacopterous fishes and in the family *Clupeidæ*, notwithstanding very important differences of structure; but now constituted by Müller and others into a family, *Polypteridæ*, of the order Ganoid Fishes. The shape is round and elongated; head defended by large bony plates, body covered with large and strong ganoid scales very closely affixed to the skin. These curious fishes, existing remains of a type prevalent in former geologic periods, inhabit the rivers of Africa and lodge in the soft mud. Their flesh is good food. The P. of the Nile, called *Bichir* by the Egyptians, is said to be one of the finest fishes of that river: it is about 18 inches long.

POLYPUS, *pŏl′ĭ-pŭs*, in Surgery: term denoting any sort of pedunculated tumor attached to a surface to which it was supposed to adhere like a many-footed animal, as its name indicates. The name is not usually given to malignant tumors. The most common seat of P. is the mucous membrane, especially that of the nostrils and uterus; but these tumors are found also in the rectum, the larynx, and the external auditory passage of the ear. The only satisfactory mode of treatment consists in their removal, which must be effected in various ways, according to their position, as by the forceps, the ecraseur, the ligature, etc.

POLYPUS, n. *pŏl'ĭ-pŭs,* POL'YPI, n. plu. *-pi* [L. *pol'ypus;* Gr. *pol'upous,* a polypus (see POLYPI)]: that which has many feet or roots; a pear-shaped tumor attached by its thin end or stalk to some mucous membrane. POL'YPOUS, a. *-pŭs,* resembling polypi; having many feet or roots.—The *Polypus* of the ancients was the animal now known as the Poulpe (see POULPE: CEPHALOPODA).

POLYRHIZOUS, a. *pŏl'ĭ-rī'zŭs* [Gr. *polus,* many; *rhīza,* a root]: in *bot.,* possessing numerous rootlets independently of those by which the attachment is effected.

POLYSARCIA, n. *pŏl-ĭ-sâr'sĭ-a* [Gr. *polusarkia,* fleshiness; *polus,* much; *sarx, sarkos,* flesh]: in *bot.,* superabundance of sap causing unnatural growth; in *pathol.,* obesity.

POLYSCOPE, n. *pŏl'ĭ-skōp* [Gr. *polus,* many; *skopĕō,* I view]: a glass through which objects appear multiplied.

POLYSEPALOUS, a. *pŏl'ĭ-sĕp'ă-lŭs* [Gr. *polus,* many, and Eng. *sepal*]: in *bot.,* applied to plants where the sepals of a calyx have no cohesion; having a calyx composed of separate sepals.

POLYSPERM, n. *pŏl'ĭ-spėrm* [Gr. *polus,* many; *sperma,* seed]: a pericarp containing numerous seeds. POL'YSPER'MOUS, a. *-spĕr'mŭs,* many-seeded.

POLYSPOROUS, a. *pŏl'ĭ-spōr'ŭs* [Gr. *polus,* many; *spora,* seed]: in *bot.,* having many seeds.

POLYSTEMONOUS, a. *pŏl'ĭ-stĕm'ŏ-nŭs* [Gr. *polus,* many; *stēmōn* or *stēmŏna,* the warp in the ancient upright loom—from *histēmi,* I stand]: in *bot.,* having the stamens more than double the sepals or petals in number.

POLYSTIGMA, n. *pŏl'ĭ-stĭg'mă* [Gr. *polus,* many; *stigma,* a mark]: very minute species of brown fungi found in autumn on live sloe and bird-cherry leaves. POL'YSTIG'MOUS, a. *-mŭs,* applied to plants where a flower has many carpels, each originating a stigma.

POLYSTOME, n. *pŏl-ĭs'tōm* [Gr. *polus,* many; *stoma,* a mouth]: in *zool.,* an animal having many mouths, as certain of the Protozoa. POLYSTOMOUS, a. *pŏl-ĭs'tŏ-mŭs,* in *zool.,* having more than two suckers or mouths; in *bot.,* having many suckers in the same fibril or root.

POLYSTYLE, n. *pŏl'ĭ-stīl* [Gr. *polus,* many; *stūlos,* a column or pillar]: in *arch.,* portico between rows of pillars; an edifice having many columns, but not the exact number of any of the classic arrangements. POL'YSTYL'OUS, a. *-stīl'ŭs,* in *bot.,* applied to a compound ovary having several distinct styles.

POLYSYLLABLE, n. *pŏl'ĭ-sĭl'lă-bl* [Gr. *polus,* many; *sul'labē,* a syllable]: a word of many or more than three syllables. POL'YSYLLAB'IC, a. *-sĭl-lăb'ĭk,* or POL'YSYLLAB'ICAL, a. *-ĭ-kăl,* pertaining to or consisting of many syllables, or of more than three.

POLYSYMMETRICAL, a. *pŏl'ĭ-sĭm-mĕt'rĭ-kăl* [Gr. *polus,* many; Eng. *symmetrical*]: in *bot.,* having a member which can be divided by several planes into portions, each the reflected image of the other.

POLYSYNDETON, n. *pŏl'ĭ-sĭn'dĕ-tŏn* [Gr. *polus*, many; *sundĕtos*, connected—from *sun*, with, and *dĕō*, I bind]: a figure of speech, in which the conjunction is often repeated where usually suppressed.

POLYSYNTHETIC, a. *pŏl'ĭ-sĭn-thĕt'ĭk* [Gr. *polus*, many; *sun'thĕsis*, a writing or composition]: a term applied to the general grammatical structure of the languages of the American Indians, which are all said to agree in grammatical, though differing in glossarial, detail; a term applied to certain languages, especially the American Indian, in which compounds are formed out of several words, with syncope and ellipsis—according to Latham. Pol'ysynthet'icism, n. *-thĕt'ĭ-sĭzm*, or Pol'ysyn'thesis, n. *-thĕ-sĭs*, a polysynthetic character.

POLYTECHNIC, a. *pŏl'ĭ-tĕk'nĭk* [Gr. *polus*, many; *technē*, art]: relating to or comprehending many arts: N. school for instruction in many arts, particularly with a view to their practical application.

POLYTECHNIQUE, *pŏl-ĭ-tĕk'nĕk* (École Polytechnique), or Polytechnic School, *pŏl-ĭ-tĕk'nĭk:* institution established in Paris (1794) by the National Convention, under the name *École des Travaux publics* (School of Public Works). No students were admitted but those who intended to enter the public service; and though the general object was the supplying of well-educated youths to all branches, it was intended particularly for thorough instruction of recruits for the corps of civil and military engineers. The institution received the name 'École Polytechnique' 1795. The pupils were at first 349 in number, and each received, during his stay of two years, an annual stipend of 1,200 francs (about $231); the teachers were in most cases the most eminent savants of France. In 1799 some modifications were introduced into the working of the school; the number of pupils was limited to 200, and they were put into uniform. The advantages of an institution of this sort soon made themselves evident, and the P. rose into high estimation in France and throughout Europe; so that it became common for other nations, when entering into a treaty with France, to stipulate for admission of a certain number of their subjects into the institution, after passing the prescribed entrance examination. In 1804 Emperor Napoleon introduced various modifications into its working, and gave it a military organization; it was also removed from the Palais-Bourbon to the old college of Navarre. The institution became more and more, as the end of the Napoleonic empire drew near, a training-school for young artillerists and engineers; and such was the enthusiasm of the pupils in the emperor's cause, that, after the disasters of 1814, they demanded to be enrolled *en masse* in the ranks of the French army. However, Napoleon was (to use his own words) not inclined 'to kill the hen for the golden eggs;' but he allowed them to form three out of the 12 companies of which the artillery corps of the national guard was composed. These three companies rendered important service in manning the walls of Paris, and behaved heroically in the battle of 1814, Mar. 30.

After the first Restoration, the P., being considered evil-disposed to the govt., suffered considerable reductions. After the second Restoration (1815, July), the staff of professors was remodelled; Lacroix and some others were dismissed, and replaced by Poisson, Arago, Cauchy, etc. Notwithstanding these changes, the govt. still had its doubts as to the loyalty of the establishment, and took advantage of an outbreak, 1816, Apr. 3, to break it up. It was reconstituted in Sep., under a revised code of regulations, and in 1822 the old severity of military discipline was restored. During the war 1870–1, the govt. of national defense ordered the pupils to meet at Bordeaux, and classes were opened there under distinguished pupils of the school brought from all parts of France. This attempt had to be abandoned, and the pupils, having sought permission to take part in the war, were divided among different sections of the army. The constitution of the school, which has so frequently suffered change, was in the end of 1873 regulated by *décret* of 1863, Nov. 30, and ministerial rules issued 1857, Mar. 5. 1. No pupil can be admitted unless he has been successful in the public competitive examination each year. 2. The conditions of admission to the competitive examination are, that the candidate shall be a Frenchman; that he shall be more than 16, and less than 20 years of age, on Jan. 1 of that year; and that he shall be either a bachelor of letters or a bachelor of sciences of the Univ. of France: if he holds both degrees he is allowed 50 marks in the examination for admission. 3. Regular soldiers are admitted up to the age of 25 years, provided they have been on real and effective service for two years. 4. The charge for board is 1,000 francs (about $200) per annum, and the cost of outfit (to be also paid by the pupil) about 600 francs ($120). 5. The duration of the course of instruction is two years: the pupils, after finishing their course, must pass a final examination; the successful candidates, if found physically qualified, are arranged in order of merit, and choose in order what branch of the public service they wish to enter. 6. The branches of the public service recruited from the P. are the corps of land and naval artillery, military and naval engineers, the national marine, the corps of hydrographic engineers, that of engineers of roads, bridges, and mines, the corps of staff-officers, the superintendence of telegraphs and gunpowder and tobacco manufactories; and generally every dept. which, requiring special scientific knowledge, may be added by *décrets* to these.

The following branches of study were embraced in the revised curriculum: mathematics, physics, chemistry and chemical manipulation, history and literature, German, written exercises, drawing, geodesy, mechanics, architecture, art militaire. Lessons in fencing, music, and dancing are given as optional, and must be separately paid for. The number of pupils varies with the requirements of the public service. In 1794 there were 396 pupils; in 1820 only 66. During the first empire the numbers increased from (1808) 110 to (1813) 227; under Louis Philippe the average number was 130. During the second empire it had risen to 140 and 150. After the war with Germany, 1870–1, the number rose to 260.—The numerous and admirably equipped technical schools of Germany (see TECHNICAL EDUCATION), often called *Polytechnica*, have received no military restriction, and are available for all interested in the industrial arts; they are in many cases scientific centres comparable to the universities.

POLYTHALAMIA, n. *pŏl'ĭ-thă-lā'mĭ-ă* [Gr. *polus*, many; *thal'ămos*, a chamber]: an order of minute animals inclosed in calcareous shells, each consisting of a series of distinct chambers—these shells occur in such vast numbers that the fine calcareous sand of the sea-shore and sea-bottom is entirely composed of their microscopic remains; foraminifera. **POL'YTHAL'AMOUS**, a. *-thăl'ă-mŭs*, having many chambers or cells.

POLYTHALMIC, a. *pŏl'ĭ-thăl'mĭk* [Gr. *polus*, many, several; *thal'ămos*, a chamber]: in *bot.*, applied to fruits formed from several pistils.

POLYTHEISM, n. *pŏl'ĭ-thē-ĭzm* [Gr. *polus*, many; *thĕŏs*, a god]: the doctrine of a plurality of gods having an agency in the government of the world. **POL'YTHE'IST**, n. *-ĭst*, one who believes in a plurality of gods. **POL'YTHEIS'TIC**, a. *-ĭs'tĭk*, or **POL'YTHEIS'TICAL**, a. *-tĭ-kăl*, pertaining to or consisting in polytheism. **POL'YTHEIS'TICALLY**, ad. *-kăl-lĭ*. See GOD.

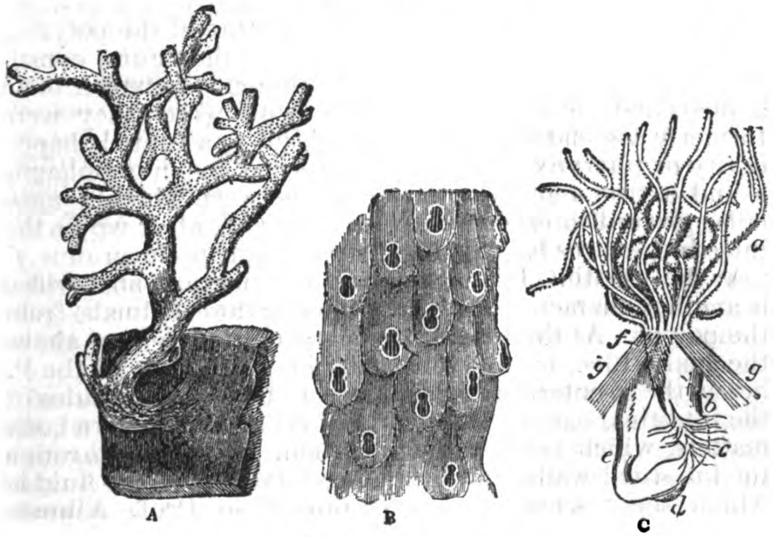
POLYTOMOUS, a. *pŏl-ĭt'ō-mŭs* [Gr. *polus*, many; *tomē*, a cutting]: in *bot.*, having the limb of a leaf distinctly subdivided into many subordinate parts, but not jointed to the petiole.

POLYTRICHUM, *pō-lĭt'rĭ-kŭm* [Gr. many-haired]: genus of mosses, having the capsule supported on a stalk (*seta*) which is terminal, and thus appears as an elongation of the stem; the peristome single, of 32 or 64 short equidistant teeth, which are curved inward, and their summits united by a horizontal membrane closing the mouth of the capsule. An abundant species is *P. commune*, sometimes called *Hair-moss*, *Golden Maidenhair*, provincially *Goldilocks;* growing in heaths and woods, particularly where the soil is sandy; the stems not at all branched, or only at the base, several inches long; the narrow slender leaves sometimes nearly half an inch long. This beautiful moss is very common in the most n. parts of Europe and Asia.

POLYURIA, n. *pŏl'ĭ-ū'rĭ-ă* [Gr. *polus*, much; *ouron*, urine]: an excessive flow of urine, as in diabetes: see HYDRURIA.

POLYXENE, *pō-lĭks'ē-nē:* daughter of Priam (king of Troy) and Hecuba. She was beloved by Achilles, and betrothed to him. To the Greeks on their homeward way, after the fall of Troy, appeared the shade of Achilles, demanding the sacrifice of P., and she was sacrificed by Neoptolemus, Achilles's son, over the hero's grave.

POLYZOA, *pŏl-ĭ-zō'ă;* known also as BRYOZOA [from Gr. *bryon*, moss, and *zoon*, an animal; because many of these organisms incrust other animals or bodies like moss] and CILIOBRACHIATA [from their tentacles being ciliated]: class of plant-like animals, chiefly marine; so called from many individuals being united into a colony or polyzoary. Although Dr. Grant, in *Observations on the Structure and Nature of Flustræ*, 1827, and Milne-Edwards and Audouin, in *Résumé des Recherches sur les Animaux sans Vertèbres faites aux îles Chaussey*, 1828, indubitably showed that these animals more closely resembled, in the details of their organization, the molluscous than the radiate sub-kingdom with which they were formerly confounded, some English writers (including Owen) retain them among the Polyps, instead of placing them among the *molluscoid animals.* Another classification ranks them with the *Vermes* (see ZOÖLOGY). Late researches, by Harmer, go to show that the typical forms (sub-class *Eupolyzoa*) are degraded mollusks, or molluscoid. (See *Quart. Jour. Micr. Sci.*, Apr. 1885.)



Eschara Cervicornis:

A, portion of its coralline fabric, of the natural size; B, portion of a young branch, enlarged, to show the arrangement of the superficial apertures; C, an individual withdrawn from its cell and highly magnified; *a*, mouth; *b*, pharyngeal cavity; *c*, secreting tubes; *d*, the digestive stomach; *e*, the intestinal canal; *f*, the anus; *g*, retractor muscles.

Most of the P. are microscopic, but as they occur in colonies, they often collectively form conspicuous masses, and though there is little diversity in the form or structure of the animals themselves, there is much difference in the form, arrangement, and composition of the cells or chambers in which the individual animals reside. 'In general,' says Gosse, 'the form of the cell is ovate or oblong; but the general shape is variously modified, being tubular, club-shaped, horn-shaped, cradle-shaped, square, etc.' The arrangement is often shrub-like, or the cells may be arranged in close series, either adhering in irregular patches, as the *Lepraliæ*, or rising into broad, flexible leaves, as the *Flustræ*, or common sea-mats, or in solid strong walls, or coral-like masses, as the *Escharæ*, or calcareous sea-mats. Each animal lives freely in its cell, with whose walls it is connected only by muscular bands and threads at certain points, and by the covering of the mouth of the cell. The animal may either expand itself to a considerable extent out of the mouth of the cell, or it may be altogether restricted within the latter; their movements being due partly to pressure upon the outer walls, and partly to the muscular bands, which act chiefly as retractors. On examining one of these organisms in the expanded state, the mouth is seen to be surrounded by a crown of tentacles, usually 10 or 12, which are clothed with vibratile cilia, which lash the water toward the mouth, and thus create numberless little whirlpools, by which nutritious matter is conducted into the oral aperture of the polyzoa. These ciliated tentacles, seen in C, *a*, in the figure, constitute one of the essential points of difference between these animals and the hydraform polyps, with which they were formerly associated. The mouth leads to a funnel-shaped cavity or pharynx *b*, which is succeeded by an œsophagus *c*, and a true digestive stomach *d* (between which a muscular gizzard intervenes in certain genera), after which the intestine, *e*, turns back on itself, and terminates in an anus, *f*, near the mouth. In the separate intestine and anal orifice is another characteristic distinguishing these animals from the polyps. At the base of the tentacular circle, just above the anal orifice, is a nervous ganglion, which in all the P. lies on the re-entering angle, between the two extremities of the intestinal canal. No heart has yet been discovered, the matters, which result from digestion, percolating through the intestinal walls, and becoming mixed with the fluid in which the viscera floats. According to Prof. Allman, three distinct modes of reproduction occur in the P., viz., by buds or gemmæ, by true ova, and by free locomotive embryos. This subject, however, requires further investigation.

Minute appendages, very remarkable, are fixed to the cells of many of the genera. They are termed *Avicularia*, or 'Birds'-head Processes,' and *Vibracula*, or whip-like spines. The *Avicularia* were described by Ellis, who first noticed them (in *Essay towards a Natural History of the Corallines*, 1758), as resembling 'a bird's head with a crooked beak, opening very wide;' they consist of a fixed and a movable nipper, like a crab's claw, the latter being worked by special muscles. These moving beaks have been often observed to seize minute animals; but as these organs have no power of passing their prey to the mouth, the P. cannot receive nourishment from this source. Gosse ingeniously suggests that 'the seizure of a passing animal, and the holding of it in the tenacious grasp until it dies, may be a means of attracting the proper prey to the vicinity of the mouth.' The *vibracula* consist of a long slender movable *seta* or bristle, which according to Gosse, serves 'to rid the animal of intruding vagrants, and to cleanse away accidental defilement, by sweeping across the orifice of the cell.' Both these kinds of organs are of service in determining genera. See Hincks, *History of British Marine Polyzoa* (in which invaluable work, 2 vols. 1880, the 235 species occurring on the British coast are figured); Huxley's *Anatomy of Invertebrated Animals;* works of Sir Wyville Thomson, and the *Challenger* Reports; Hertwig's works on Marine Animals; Busk's classification in *Catalogue of Marine Polyzoa in the British Museum;* and Allman's 'Report on the Fresh-water Polyzoa,' and Brit. Assoc. Report *On Fossil Polyzoa* (1882, etc.).

POLYZONAL, a. *pŏl'ĭ-zō'năl* [Gr. *polus*, many; *zōnē*, a zone or belt]: composed of several zones or rings, applied to burning lenses.

POLYZOON, n. *pŏl'ĭ-zō'ŏn* [Gr. *polus*, many; *zoon*, animal]: one of the class *Polyzoa*. POLYZOA, n. plu. *pŏl'ĭ-zō'ă*, numerous class of plant-like animals, inhabitants chiefly of the sea (see above). POLYZOARIUM, n. *pŏl'ĭ-zō-ā'rĭ-ŭm*, the dermal system of a colony of the Polyzoa: see POLYPIDOM, under POLYPIDE.

POMACEÆ, *pō-mā'sē-ē*, or POMEÆ, *pō'mē-ē:* according to some botanists, a nat. order of plants; but more generally regarded as a sub-order of ROSACEÆ (q.v.). The plants of this order are trees or shrubs, abundant in Europe, and belong chiefly to the temperate and colder regions of the n. hemisphere; they are rare in very warm climates, and are not found at all in the s. hemisphere. They have the botanical characters described in the article ROSACEÆ (q.v.); and in addition are distinguished by having the tube of the calyx more or less globose, the ovary fleshy and juicy, lined with a thin disk, its carpels adhering more or less to the sides of the calyx and to each other; the fruit a *Pome* (q.v.), 1–5-celled, in a few instances spuriously 10-celled; the ovules in pairs, collateral. There are about 200 known species. Many of these species are prized for beauty and fragrance of flowers, some produce valuable timber; but the order is remarkable chiefly as producing a number of the very finest fruits of temperate climates: see APPLE: PEAR: QUINCE: MEDLAR: LOQUAT: HAWTHORN: CRATÆGUS: AMELANCHIER: ROWAN: SERVICE.

POMACEOUS: see under POME.

POMADE, *pō-mād'*, or POMATUM, n. *pō-mā'tŭm* [It. *pomata*, pomatum—from Fr. *pomme*, L. *pomum*, apple]: fragrant greasy preparation used instead of liquid oil as hair-dressing; anciently made by boiling over-ripe apples in fat, by which the peculiar odor of the fruit was communicated. POMA'TUMED, a. *-tŭmd*, dressed with pomatum. —*Pomade* or *Pomatum* consists of a fine inodorous fat, such as lard or suet; but neither of these are quite free from smell, and careful perfumers render them so by a peculiar process. They melt them in a steam-bath, and to every ¼ of cwt. add 1 oz. of alum and 2 ozs. of salt, continuing the action of the heat till any scum ceases to rise; the scum is carefully removed, and the fat allowed to cool, after which it is levigated with cold water with great care and patience until every particle has been acted upon, and the salt, alum, and albuminous matters are perfectly washed out, after which it is remelted in the steam-bath, and any remaining water falls to the bottom: when cold, it is fit for use. The perfumer then takes portions of this prepared fat, and remelting each separately, adds a little wax or spermaceti to give it consistency, and perfumes it with some essence. The varieties of pomades are as numerous as the perfumed essences.

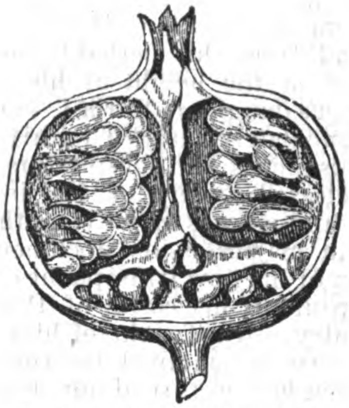
POMANDER, n. *pō-măn'dėr* [F. *pomme d'ambre*, apple of amber]: a scent-ball; a perfumed ball or powder; a small ornamental box containing perfumes, carried by ladies suspended from their girdles in the 16th century.

POMBAL, *pom-bâl'*; Dom Sebastiao Jose de Carvalho e Mello, Marquis de: greatest of all Portuguese statesmen, and one of the ablest men of his time: 1699, May 13—1782, May 8; b. at the castle of Soura, near Coimbra; son of Manuel de Carvalho, capt. of cavalry, and of the second grade of nobility. After studying law at Coimbra, and serving a short time in the army, P. was banished from Lisbon on account of his youthful turbulence of disposition, and retired to his birthplace, where he applied himself to study. Subsequently, he married a rich widow, Donna Teresa da Noronha Almada, and repaired to court. In 1739 he was appointed envoy-extraordinary to the court of London, and later he was sent to Vienna in a similar capacity. Here P. (whose first wife had died) espoused, 1749, Leonora Ernestina, Countess Daun, niece of the famous Austrian marshal of that name. This marriage had a most felicitous influence on his future. When P. returned to Portugal, the Portuguese queen, who was an Austrian princess, conceived a great attachment to his wife; and when her son, Joseph I., ascended the throne 1750, she induced him to appoint P. state sec. for foreign affairs. Immediately his splendid administrative genius burst forth like a sudden blaze of sunshine. He found his country almost without an army, without a fleet, without commerce or agriculture, and all power in the hands of unscrupulous Jesuits and grasping nobles. Among his first acts was to reattach to the crown a great number of domains that had been unjustly alienated. Then followed reorganization of the army, the checking of the Inquisition, introduction of fresh colonists into the Portuguese settlements, establishment of an E. Indian Company; and a company for Brazil, where he introduced cultivation of coffee, sugar, cotton, rice, indigo, and cocoa. In virtue of a treaty with Spain, 1753, Paraguay became an appanage of the Portuguese crown, and it was in this remote region that P. first came into collision with the Jesuits—founders of the Paraguay missions. He caused his brother, Francisco-Xavier de Mendonça, to be appointed capt.-gen. of Paraguay, and is said to have given him secret instructions to ruin the Jesuits in his reports to the king. At the occurrence of the great earthquake at Lisbon 1755, P. showed almost superhuman courage and energy, in consequence of which the king raised him to the rank of Count of Œyras, and in the following year appointed him prime minister. He crushed a revolt instigated by the great nobles and the Jesuits, the latter of whom he now removed from the person of the sovereign, deprived of the power of the confessional, and (1757) confined to their colleges. A conspiracy against the life of the king, which broke out 1758, Sep. 3, but failed, placed his enemies completely in his power. The leaders were punished with appalling severity. The Duke of Aveiro and the Marquis of Tavora were broken alive on the wheel, the sons and the son-in-law of the former were strangled, and the wife of the marquis was beheaded. The Jesuits were suspected of complicity in the plot, and P. accused them to the pope; and when the pope would not allow the minister to proceed against them in the civil courts, he daringly caused some to be put to death in prison. Father Malagrida, who had prophesied the death of the king, was delivered over to the Inquisition as a heretic, and condemned to be burned alive; and this *auto-da-fé* actually took place 1761. But P. was not satisfied. He had made up his mind that the very presence of the Jesuits in Portugal was incompatible with the security of the government and the welfare of the nation, and by a royal decree 1759, Sep. 3, they were banished from the kingdom as rebels and enemies to the king. When they refused to leave, P. had them violently removed by soldiers, carried on board ships, and transported to the States of the Church. The pope, Clement XIII., vehemently protested, whereupon P. caused the papal nuncio to be shown across the frontier. Shortly afterward, Clement XIII. died, and was succeeded in the papal see by Clement XIV.—no friend of the Jesuits, in consequence of which the differences between Portugal and the Vatican were soon made up. All this time P. was laboring energetically to improve the cultivation of the land and the system of education. In 1770 he was created Marquis of P., and from this period to the death of the king 1777, he was at the height of his greatness. The accession of Joseph's daughter, Maria I.—an enemy of the minister—was immediately marked by his downfall. He was deprived of his offices; the conspirators whom he kept in prison were released; many of his institutions were abolished; and he himself was saved from the scaffold only because he held in his possession documentary proofs of the former treason of his now triumphant enemies. Maria ordered him to retire to his castle of Pombal, where he died. The peasantry always spoke of him as 'The Great Marquis,' and history has stamped the rustic verdict with its approval. When he was turned out of office, he left the queen a public purse containing 78,000,000 cruzados, and a well-ordered and flourishing state.

POME, n. *pōm* [F. *pomme*—from L. *pomum*, an apple]: in *bot.*, a fleshy many-celled fruit, as the apple, pear, and other fruits of the *Pomaceæ;* and in which the *epicarp* and *mesocarp* (see FRUIT) form a thick fleshy mass; while the *endocarp* is scaly, horny, or stony, and divided into separate cells, in which the seeds are inclosed. The fruit is crowned with remains of the calycine segments. Pomes have 1–5 cells, or spuriously 10 cells. POMME, n. *pŭm*, or POMMETTE, n. *pŭm-mĕt'*, in *her.*, a device, or some part of it, resembling an apple. POMACE, n. *pŭm'ās*, apples crushed by grinding; the refuse of cider-pressings. POMMAGE, n. *pŭm'māj*, another spelling of *pomace.* POMACEOUS, a. *pō-mā'shŭs*, consisting of apples; resembling apples or relating to them.

POMECITRON, n. *pŏm-sĭt'rŭn* [F. *pomme*, an apple, and Eng. *citron*]: a citron-apple.

POMEGRANATE, n. *pŏm'grăn-āt* [L. *pomum*, an apple; *granātus*, having many grains or seeds: It. *pomogranato*], (*Punica granatum*): showy tree producing splendid flowers and fruit: also its fruit, indehiscent, pulpy, containing many seeds. The P. is much cultivated in warm countries, and is apparently a native of warmer temperate parts of Asia, perhaps also of n. Africa. It has been cultivated in Asia from most ancient times, and is mentioned frequently in the Old Test. On the robe and ephod of the Jewish high-priest were ornaments resembling the fruit. It has long been naturalized in s. Europe. In a wild state, the plant is a thorny bush, in cultivation it is a low tree, with twiggy branches, flowers at the extremities of the branches, the calyx red, the petals scarlet. It is generally referred to nat. order *Myrtaceæ.* The calyx is leathery, tubular, 5–7-cleft; there are 5–7 crumpled petals; the fruit is as large as a large orange, with thick leathery rind of fine golden yellow, with a rosy tinge on one side, not bursting when ripe; the cells filled with numerous seeds, each of which is surrounded with pulp, and separately inclosed in a thin membrane, so that the P. appears to be formed of a great number of reddish berries



Section of a Pomegranate.

packed together and compressed into irregular angular forms. The pulp is sweet, sometimes subacid, and of pleasant delicate flavor, very cooling, and grateful, particularly in warm climates. It is often used for preparation of cooling drinks. A kind of P. without seeds is cultivated and much prized in India and Persia. Pomegranates have long been imported in small quantities into Britain and the United States from Portugal and n. Africa; but have never become an article of general demand and commercial importance like oranges. There is an ornamental variety of the P. with double flowers. The rind of the fruit is very astringent, and a decoction is used as a gargle in relaxed sore throat, and as a medicine in diarrhea, dysentery, etc. Deriving its astringency from tannin, it is used to tan leather: the finest Morocco leather is said to be tanned with it, and small quantities are exported from n. Africa, under the name *Pomegranate Bark*, for preparation of the finest kinds of leather.—The bark of the roots is used as an anthelmintic, and is often successfully administered in cases of tape-worm. Its value was known to the ancients, and it has long been in use in India.—The P. tree is occasionally cultivated in northern temperate countries in hothouses, and even in the open air, and is very ornamental; but the fruit is worthless. In parts of s. Europe it is used as a hedge plant.

POMEL, n. *pŭm'ĕl* [see POMMEL 1]: in *arch.*, a ball or boss, or round ornament used as a finial on a pointed roof, turret, etc.

POMERANIA, *pŏm-ē-rā'nĭ-a* (Ger. *Pommern*): province of Prussia, bounded n. by the Baltic, e. by W. Prussia, s. by Brandenburg, w. by the Mecklenburg duchies; 11,600 sq. m. Pop. (1880, Dec.) 1,540,034. P. is divided into three governmental districts, Stettin, Stralsund, and Köslin.

This province, one of the lowest and flattest in Germany, with few hills of even moderate height, is intersected by the Oder (q.v.), which forms numerous lakes and ponds, the largest of which is the Dammer Lake. The waters of this lake and of the Oder are then carried into the Stettiner Haff, from which three outlets—those of the Peene, Swine, and Dievenow—lead into the Baltic. Between these three outlets are the two islands Usedom and Wollin. After the Oder, the chief rivers are the Ihna, Rega, Persante, Wipper, and Stolpe. The shores in parts are protected by dikes and sand-banks. The soil is generally sandy, and in many districts even stony; though near Pyritz and Stargard, on the Ploen and Maduc lakes, and at points of the sea-coast, it is moderately fruitful, yielding good crops of wheat, and affording rich pasture. About half of the whole area is cultivated; about a sixth is uncultivated, or under water; and the remainder is in pastures, heath, and wood. The chief vegetable products, most of which are grown in sufficient quantities to be largely exported, are —rye, wheat, and other grain, flax, hemp, tobacco, and timber. Among exports of P. are horses, cattle, sheep, swine, geese of superior quality, feathers, butter, wool, hams, sausages, smoked poultry, etc. The sturgeon and salmon fisheries are very productive, and P. is noted for admirable lampreys, eels, and cray-fish, which are largely exported in a pickled state. The mineral products are inconsiderable; they include bog-iron, lime, marl, alum, salt, amber found on the coast near Stolpe; also peat, obtained in enormous quantities, and extensively used for fuel, notwithstanding the abundant supply of wood from the extensive forests.

Linen and woolen fabrics, and leather, rank among the best industrial products; but the manufactures of P. are not important. The principal branches of industry are agriculture and rearing of horses and cattle; while the active transport trade between the neighboring Prussian states and the Baltic ports is a very important source of wealth. The main seat of Pomeranian trade is at Stettin (q.v.), one of the most important commercial cities of Prussia.

P., like every other part of the Prussian dominions, is well provided with educational institutions, and, besides the univ. at Greifswald, it has 13 gymnasia, several normal and training schools, and numerous classical and other schools.

P. formed, in its earliest history, a part of the anc. kingdom of the Wends or Vandals. From 1062 it had its own ducal rulers, and in the beginning of the 12th c. it adopted Christianity in consequence of the preaching of Bp. Otto of Bamberg. Bogislaus XIV., who died 1637, was the last male representative of the Wendish ducal line; and, on his death, the House of Brandenburg laid claim to the whole of the Pomeranian territories, in conformity with a compact asserted to have been made between that family and the Wendish dukes; but the country having been occupied by the Swedes during the Thirty Years' War, Prussia was obliged to content itself with the possession of Further P., or *Hinterpommern*, which was assigned to it at the Peace of Westphalia, while Sweden retained the remainder of P., with the island of Rugen (q.v.). After the death of Charles XII., and the subsequent decline of the Swedish power, Prussia was able to make good her asserted claims on the territory of P. at the Peace of Stockholm; and 1720 Sweden was compelled to cede Southern P. and the island of Rugen, retaining only a narrow strip of land between Mecklenburg and the Baltic, which also was incorporated with Prussia 1815, after having been first transferred by Sweden to Denmark as part indemnification for the separation from the latter kingdom of Norway, and subsequently ceded to Prussia by the Danes in exchange for the duchy of Lauenburg, and on the payment of 2½ million thalers to the latter, and of 3½ million thalers to the Swedish government.

POMERA'NUS, or DR. POM'MER: see BUGENHAGEN.

POMEROY, *pŭm'ė-roy:* city, cap. Meigs co., Ohio, on the Columbus Hocking Valley and Toledo railroad, and the Ohio river, 66 m. from Parkersburg, 133 m. from Columbus, 239 m. from Pittsburgh. There are nine churches, good schools, two weekly newspapers, a national bank (cap. $100,000) and a private bank. The manufactures include flour, salt, and woolen goods, and there are iron works of some extent. Large quantities of bituminous coal are mined in the vicinity. There is considerable trade with other towns lying on the river. The village was incorporated 1841 and the city 1868. Pop. (1880) 5,560.

POM'EROY: JOHN NORTON, LL.D: professor of law and writer: 1828, Apr. 12—1885, Feb. 15; b. Rochester, N. Y. He was graduated at Hamilton Coll. 1847; began the practice of law 1851; was prof. of law and lecturer on polit. science in the Univ. of the City of New York 1864–69; and prof. of law in the Univ. of Cal. 1878 until his death at San Francisco. He published *Introduction to Municipal Law* (1865); *Introduction to Constitutional Law of the United States* (1868); annotated edition of *Sedgwick's Statutory and Constitutional Law* (1874); *Remedies and Remedial Rights according to the Reformed Amer. Procedure* (1876); *Treatise on the Specific Performance of Contract* (1879); *Treatise on Equity Jurisprudence* (1883); *Treatise on Riparian Rights* (1884). He was also a contributor to the *Nation*, the *N. Amer. Review*, and law periodicals. His work on constitutional law has been used as a text-book in colleges.

POMEROY, n. *pŭm-roy'*, or POMEROY'AL, n. *-roy'ăl* [F. *pomme*, an apple; *roi*, a king]: a particular variety of apple.

POM'EROY, SETH: revolutionary patriot: 1706, May 20—1777, Feb. 19; b. Northampton, Mass. A gunsmith by trade, his skill was serviceable at the capture of Louisburg 1745 in refitting spiked cannon. He then held the rank of major; was promoted to lieut.col.; and commanded at the defeat of Dieskau's French and Indians. He was a member of the provincial cong. 1774-5, which appointed him brig.gen. 1775. With musket he hastened to Bunker Hill after the battle was begun, and showed great bravery. Soon after this, a dispute arising in regard to his appointment as senior brig.gen., he retired from active service; but he raised a force to relieve Gen. Washington in N. J. 1776, and died on the way at Peekskill, N. Y.

POMEWATER, n. *pōm'waw-tėr* [*pome*, and *water*]: in *OE.*, a kind of apple.

POMEY, n. *pŏm'ĭ* [F. *pommé*, grown round or to a ball, like an apple]: in *her.*, the figure of an apple or of a roundel; it is always of green color.

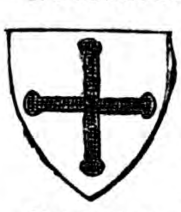
POMIFEROUS, a. *pō-mĭf'ėr-ŭs* [L. *pomum*, an apple; *fero*, I produce]: apple-bearing; applied to the plants that yield the larger fruits,

POMIGLIANO D'ARCO, *pō-mēl-yâ'nō dâr'kō:* town in the province of Naples, Italy, circumscription of Casoria, about 7 m. n.e. of Naples; pop. (1881) 8,252. It has two very handsome churches, and a hospital; also ruins, among them some arches (hence the name of the place, Pomigliano *of the arch*) of an ancient aqueduct. The principal industry is polishing of gems.

POMMEL, n. *pŭm'mĕl* [F. *pommeau*, a knob: It. *pomo*, an apple, a pommel—from L. *pomum*]: a knob; any globular ornament; the knob on a sword-hilt; the protuberant part of a saddle-bow.

POMMEL, v., or **PUMMEL**, v. *pŭm'mĕl* [Bav. *pumsen*, to sound hollow, to beat: Lang. *poumpi*, to beat, to knock: W. *pwmpio*, to thump, bang—the root *pum* being used to signify striking, from direct imitation of the sound of a blow (see also BUMP)]: to beat: to beat roughly. **POM'MELLING**, imp.: N. a beating; a thumping; a bruising. **POM'MELLED**, pp. *-mĕld*.

POMMETTY *pŏm'ĕ-tĭ*, or **POMEL CROSS**, *pŏm'ĕl*, in Heraldry: cross whose extremities terminate in single knobs or pomels, like the *Bourdon* or pilgrim's staff.



Pommetty Cross.

POMOLOGY, n. *pō-mŏl'ŏ-jĭ* [L. *pomum*, an apple, a fruit; Gr. *logos*, a discourse]: art or science of rearing fruit; a treatise on fruits—particularly of nat. order *Pomaceæ* (q.v.): see FRUIT: ORCHARD. **POMOLOGICAL**, a. *pō'mō-lŏj'ĭ-kăl*, pertaining to pomology. **POMOLOGIST**, n. *pō-mŏl'ŏ-jĭst*, one who is skilled in pomology.

POMONA, *pō-mō'na* [name obviously connected with *pomum*, a fruit]: among the anc. Latins, the patron divinity of tree-fruits. The poets, not, perhaps, without some allegorical design, represent several of the rural gods as her lovers—Silvanus, Picus, Vertumnus, etc. Of Vertumnus, god of the turning year, in particular, it is related that after he had vainly tried to approach her under a thousand different forms, he at last succeeded by assuming the figure of an old woman. In this guise, he recounted to her the lamentable histories of women who had despised love, and having touched her heart, suddenly transformed himself into a blooming youth and married her. But Vertumnus (connected with *verto*, 'I turn,' or 'I transform') is probably nothing more than a personification of those changes by which plants advance from blossom to fruit. The worship of P., as was natural among a homely race of farmers and shepherds like the ancient Latins, was of considerable importance. Varro tells us that at Rome her services were under the care of a special priest, the *flamen Pomonalis*. In works of art she was generally represented with fruits in her lap, or in a basket, with a garland of fruits in her hair, and a pruning-knife in her right hand.

POMONA, *pō-mō'na*, or MAIN'LAND: much the largest and most populous of the Orkney Islands (q.v.), in which group it is central. It is open to the Atlantic on the w., and to the German Ocean on the e., while on the n. Enhallow and Shapinsha sounds separate it from the islands of Ronsay and Shapinsha, and on the s., Scapa Flow separates it from Hoy and South Ronaldsha: 25 m. long, 15 m. in extreme width, but very irregular in shape; 150 sq. m. At the town of Kirkwall, the breadth is only about two m. In the w., the shores are bold and elevated, but there is a general slope toward the e. The surface is diversified, and consists in great part of moor and heath, with some good pastures, and in the valleys a fertile, loamy soil. Oats, beans, and bere are produced, and sheep and swine are extensively reared. The chief towns are Kirkwall (q.v.) and Stromness (q.v.). Pop. of island (1881) 17,165.

POMP, n. *pŏmp* [F. *pompe*, pomp, splendor—from L. *pompa:* Gr. *pompē*, a solemn procession—from *pempō*, I send: It. *pompa*]: exterior show; ostentation; display; parade; a splendid ceremony; in *OE.*, a splendid procession. POMPOUS, a. *pŏm'pŭs*, showy; splendid; characterized by ostentation and boastful display. POM'POUSLY, ad. *-lĭ*. POM'POUSNESS, n. *-nĕs*, or POMPOSITY, n. *pŏm-pŏs'ĭ-tĭ*, the state of being pompous; ostentation; magnificence of display; showiness; boastfulness.—SYN. of 'pomp': parade; display; ostentation; grandeur; pride; pageant; pageantry; splendor; state; magnificence; show; —of 'pompous': superb; august; stately; dignified; ostentatious; lofty; boastful; magisterial; grand; splendid; showy; swelling.

POMPADOUR, n. *pŏm'pa-dôr:* style of head-dress for women about the middle of the 18th c., so called after Madame Pompadour; later, a style of dressing the hair by rolling it off from the forehead over a sort of cushion.

POMPADOUR, *pŏng-pâ-dôr'*, JEANNE ANTOINETTE POISSON LE NORMANT D'ETIOLES, Marquise DE: notable mistress of Louis XV.: 1721, Dec. 29—1764, Apr. 15; b. Paris. Her reputed father was François Poisson, who had an office in the household of the Duke of Orleans; but M. le Normant de Tournehem, a rich *fermier-général*, was suspected of being her father, and actually assumed the cost of her education. She turned out a wonderfully clever child, and M. le Normant spared no pains to give her the best, at least, the most stylish education, giving her to understand that she was a 'morsel for a king.' She excelled in such accomplishments as music, elocution, and drawing; but what charmed the brilliant society that frequented the *salons* of the rich financier, was the perfect grace and beauty of her figure, and the exquisite art with which she dressed. A crowd of suitors constantly besieged her, but the one who obtained her hand was her guardian's nephew, Le Normant d'Etioles, whom she married 1741. But Madame d'Etioles was careless of her husband's honor and of his ardent love; and cold, heartless, and ambitious, she was scheming day and night to attract the notice of the monarch. Her efforts, long in vain—for there was no communication between the society of financiers in which she shone, and the court circle—were at last successful; she gained the king's notice on one of his hunting parties, and as the result, Madame d'Etioles was installed in the palace of Versailles. She was soon afterward ennobled by the title Marquise de P., and long ruled the king, first as mistress, and, when after a year or two he had grown indifferent, as *amie nécessaire.* One reads with astonishment of her incessant artifices to preserve her influence—the everlasting huntings, concerts, private theatricals, little suppers, and what not—anything to distract the royal mind (surely sufficiently distracted already by nature), and to keep him mindful of the clever purveyor of gayeties! The private theatricals, in particular, were a great success, and were 'got up' every winter from 1747 to 53—the marquise herself being a charming actress. The king thought the marquise extremely clever, and, when he ceased to 'love' her, was glad to avail himself of the services of this strong and brilliant woman as his political adviser. In fact, she became premier of France; the council of ministers assembled in her boudoir, where the most important affairs of state were settled. The choice of ministers, of ambassadors, of generals, depended on a woman's caprice; the Abbé de Bernis, the favorite of a favorite, entered the council. Foreign diplomacy turned the circumstance to account. The Austrian prime-minister induced Maria Theresa to sacrifice her pride to the exigencies of her position, and the empress-queen wrote the courtesan a letter in which she addressed her as *ma cousine.* That word turned the head of the marquise, and changed for a time the foreign policy of France, which had long been anti-Austrian. She died with the reins of government in her hands, sinking gradually into weakness under the tremendous and incessant strain. During her life-time, immense sums from the national treasury were lavished on the marquise, and on her brother, created Marquis de Marigny: in the years 1762, 3 alone they amounted to 3,456,000 livres (more than $650,000). She had numerous houses and lands also given her. In 1853 M. le Roi, keeper of the town-library of Versailles, published in the *Journal de l'Instruction Publique,* a list of the expenses of the Marquise de P. during her years of royal favor, which he had found in MS. in the archives of the dept. of Seine-et-Oise. They amounted to 36,000,000 livres (not far from $7,000,000). She was imperious and vindictive beyond measure, and with relentless cruelty doomed to perpetual imprisonment, in the dungeons of the Bastile and elsewhere, multitudes who had dared to question her ill-gotten gains and power. In view of facts like these, it is but a poor apology for the marquise to adduce the fact that she encouraged savants, poets, and philosophers—notable among whom was Voltaire—patronized and protected the *Encyclopédie,* and aided in the expulsion of the Jesuits. The *Lettres* in her name are mostly spurious. See the *Life* by Goncourt (new ed. 1878).

POMPEII, *pŏm-pā'yē:* anciently a city of Campania, at the mouth of the river Sarnus (*Sarno*), looking out on the Bay of Naples. It stood at the base of Mount Vesuvius, between Herculaneum and Stabiæ. Of its early history little is known (legend ascribed its foundation to Hercules); but in more recent times it became a favorite resort for wealthy Romans, many of whom, including Cicero, had villas in the suburbs. It must have been at one time a place of considerable trade, since it was the port-town of Nola and other inland cities which studded the fertile valley of the Sarnus. The city was much damaged by an earthquake, A.D. 63, Feb. 5; and not many years later the great and final calamity overtook it. In 79 a terrific eruption of Vesuvius in one day overwhelmed in irremediable ruin the towns of P., Herculaneum, and Stabiæ. In course of time a small village rose at or near the spot; but by and by the memory of P. was forgotten, and for centuries its very site was unknown. The difficulty of discovering its true position was increased by the changes produced by this fearful convulsion, which had hurled back the Sarnus from its former course, and raised the sea-beach to a considerable height, so that the rediscovered city, to which merchantmen resorted of old, is now a mile from the coast, and a considerable distance from the stream that in ancient times skirted its walls. For more than 1,600 years P. lay undisturbed beneath heaps of ashes and cinders. At length, 1689, some ruins were noticed, but not till 1755 were any excavations made. These operations, begun by the Neapolitan govt., have been continued till the present time (recently with increased energy), and have been exceedingly productive of objects which interest the antiquarian and the classical scholar. The remains found are in remarkably good preservation, owing to the fact that the city was destroyed not by lava, but by showers of sand, ashes, and cinders (*lapilli*), forming a light covering, which found its way into every nook, and, as it were, hermetically sealed up the town. It would appear that in some parts at least the matter was deposited in a state of liquid mud, and so flowed into the remotest cellars of the doomed habitations. This is proved by the discovery of the skeleton of a woman 'inclosed in a mold of volcanic paste, which retained a perfect impression of her form.' It suggested to Signor Fiorelli, director of the excavations, the idea of filling up the molds with liquid plaster, and obtaining casts of the forms that they had contained. Among recent excavations are several paintings of classical subjects, one of which, the Laocoön, excavated 1875, is a most valuable specimen of ancient art. That the superincumbent rubbish, in most places about 15 ft. deep, is the accumulation of several eruptions is proved by the facts: that as many as eight or nine different layers have been distinctly counted; and that, while the upper layers are undisturbed, the lower one has evidently been moved. The comparatively few skeletons found, and the almost entire absence of objects of great value, as gold and silver plate, show that most of the inhabitants (estimated at 20,000) escaped and returned to bury their dead, and recover their treasures. In the autumn of 1864, more than 200 skeletons were found in a temple of Juno, the victims having evidently gone thither to seek the protection of the goddess. Only about one-third of the city has as yet been excavated. The plan of P. seems to have been regular, the narrow streets crossing one another at right angles. The houses were plain and seldom more than two stories high, and had all their good apartments on the ground-floor. The walls are about two m. in circumference. In all the departments of social life—in the affairs of domestic and of public life, of the worship of the gods, and the shows of the arena—in architecture, painting, and sculpture—in fine, in all the appliances of comfort and of luxury in a wealthy community, we have in this exhumed city the reproduction of a city of 1,800 years ago. See further: Mazois's work, *Les Ruines de Pompeii* (Paris 1812–38); Breton's *Pompeia* (Paris 1855); Overbeck's *Pompeji* (3d ed. 1875); Gell's *Pompeiana* (4 vols. 1824–30); *Something of Italy*, by W. Chambers (1862); and *Pompeii*, by T. H. Dyer (1875). In connection with the commemoration of the 18th centenary of the destruction of the city, a volume was issued 1879 by the directorate of the Museum of Naples, treating of every aspect of the public and private life of the people of Pompeii.

POMPELMOUS, *pŏm'pĕl-mŭs*, or POM'PELMOOSE, *-mós*, or POMELO, *pŏm'ĕ-lō* (*Citrus pompelmoos*): fruit nearly resembling the Shaddock (q.v.), of which, perhaps, it ought to be classed as a variety, though it is now distinguished by some botanists as a separate species. The common name in New York is Grape Fruit, when not confounded with the Shaddock. It is large and pale yellow, though smaller than the Shaddock proper. It has long been cultivated in the E. Indies, and has recently been introduced into many warm countries. It has become an article of importation. In pleasantness of taste, it resembles the best oranges. It is often preserved with wine and sugar, when it is very agreeable and refreshing in a hot climate. The rind is often candied.

POMPET, n. *pŏm'pĕt* [OF. *pompette*]: old name of a printer's ball for spreading the ink on the types.

POMPEY, *pŏm'pĭ*, THE GREAT (CNEIUS POMPEIUS MAGNUS): Roman triumvir and soldier: B.C. 106–48; son of Cneius Pompeius Strabo. At the age of 17 he began to learn the military art under his father by service in the field against the Italians in the Social War, and gave proof of extraordinary valor and energy. On the death of his father, B.C. 87, when he was only 19 years of age, he was left without a protector, and during the temporary triumph of the Marian party he was in considerable danger. When Sulla, to whose side he was attached, returned from Greece to Italy to oppose Marius, P. hastened into Picenum, where he had considerable estates and influence, and there raised an army of three legions, with which, after successfully opposing the forces of the Marian party, he compelled them to quit the district, and effected a junction with Sulla. During the rest of the war he behaved with great prudence and valor, and with such remarkable success, that, on restoration of peace in Italy, the conduct of the war against the remains of the Marian faction in Africa and Sicily was intrusted to him. He speedily performed his commission, and on his return to Rome was honored with the name MAGNUS (i.e., 'The Great'), and with a triumph, which, for one who had not yet held any public office, and was merely an *eques*, was an unprecedented distinction. His next exploits were the reduction of the followers of Lepidus, whom he drove out of Italy, and the extinction of the Marian party in Spain, led by the brave Sertorius. This latter work was difficult. P. suffered some severe defeats at the hands of Sertorius, and it was only after Sertorius had been assassinated that he was able to put an end to the war. Returning to Italy after an absence of five or six years in Spain, he met and defeated the remnants of the army of Spartacus, and thus claimed the credit of concluding the Servile War. He was now the idol of the people, and though legally ineligible to the consulship, was elected to that important office for the year B.C. 70, the senate relieving him of his disabilities rather than provoke him to extremities. Hitherto P. had belonged to the aristocratic party, but as he had of late years been viewed with suspicion by some of the leading men, he publicly espoused the people's cause. He carried a law restoring the tribunician power to the people; and aided largely in introducing the bill of Aurelius Cotta (*Lex Aurelia*), that the *judices* should for the future be taken from the *senate*, the *equites*, and the *tribuni aerarii*, instead of from the senate alone. B.C. 67–66 P. performed a noble service to the republic in clearing the Mediterranean of the pirates who infested it in immense numbers; and during the next four years, 65–62, he conquered Mithridates, King of Pontus, Tigranes, King of Armenia, and Antiochus, King of Syria. At the same time he subdued the Jewish nation, and captured Jerusalem. On his return to Italy he disbanded his army, and entered Rome in triumph for the third time B.C. 61. And now his star began to dim. Henceforward we find him distrusted by the aristocracy, and second to Cæsar in popular favor. After his return, he was anxious that his acts in

Asia should be ratified by the senate, and certain lands apportioned among his veteran soldiers. But the senate declined to accede to his wish, and he therefore formed a close intimacy with Cæsar, who promised to secure for him the accomplishment of his objects, if he in turn would assist Cæsar in attainment of *his* aims. Crassus, who possessed enormous wealth, and therefore exercised wide influence at Rome, was induced to forego his grudge to P. and thus these three men formed among themselves that coalition which is commonly called ' the First Triumvirate,' and which for a time frustrated all the efforts of the aristocratic party. This small oligarchy carried all before them; P.'s acts in Asia were ratified; Cæsar's designs all were gained; his agrarian law, distributing land in Campania among the poorer citizens was passed; and thus, too, P.'s promises to his troops were fulfilled. Cæsar's daughter, Julia, was given in marriage to P., and private relationship was thus made to bind tighter the tie of political interest. And now, for years following, Cæsar was reaping laurels in Gaul, and rising higher in popular esteem as warrior and statesman, while P. was idly wasting his time and his energies at Rome. But P. could not bear a rival. Jealousies sprang up; Julia died B.C. 54, and thus father-in-law and son-in-law were sundered by a wider gulf which no bridge could span. P. now returned to his former friends, the aristocracy, whose great desire was to check Cæsar's views, and strip him of his command. Cæsar was ordered to lay down his office and return to Rome, which he consented to do, provided P., who had an army near Rome, would do the same. The senate insisted on an unconditional resignation, and ordered him to disband his army by a certain day, otherwise he would be declared a public enemy. To this resolution two of the tribunes in vain objected; they therefore left the city and cast themselves on Cæsar for protection. It was on this memorable occasion that he crossed the Rubicon, and thus defied the senate and its armies, which were under P's. command. For the events of the civil war which followed, see CÆSAR. It remains only to mention, that after being finally defeated at Pharsalia B.C. 48, P. escaped to Egypt, where, according to the order of the king's ministers, he was treacherously murdered by a former centurion of his own, as he was landing from the boat. His head was cut off, and afterward presented to Cæsar on his arrival in Egypt. But Cæsar was too magnanimous to delight in such a sight. The murderer of P. was, by his orders, put to death. The body lay on the beach for some time, but was at length buried by a freedman, Philippus, who had accompanied his master to the shore. Pompey was a remarkably successful soldier, but left no sign of statesmanship. In private he had estimable qualities: in that corrupt capital his domestic life was pure; and though often wielding vast power he never used it for extortion.—His second son, SEXTUS POMPEIUS (B.C. 75–35), prolonged the contest with the new rulers of Rome. He received a large sum of money from the public treasury in compensation for the confiscation of his father's estate;

marched southward and assumed the style of a sovereign. Proscribed by the second triumvirate, he escaped into Spain, gathered a fleet, made himself master of Sicily, and by his ships cut off the supplies of food for Rome. After a Roman squadron under Agrippa had destroyed his fleet, he was put to death.

POM'PEY'S PILLAR: famous column standing in the neighborhood of Alexandria, upon an eminence about 1,800 ft. s. of the walls. It is a monolith of red granite, of the Corinthian order, stands upon a pedestal; total height 98 feet, 9 inches; shaft, 73 feet; 29 feet, 8 inches in circumference. The shaft is well executed. On the summit is a circular depression for the base of a statue, which in some old drawings is represented standing on it. The name P. P. is an erroneous appellation given by ancient travellers, who confess they do not know whence the name was derived. The inscription on the base shows that it was erected by Publius, prefect of Egypt, in honor of Emperor Diocletian, who is styled upon it 'the invincible;' and it is supposed to record the conquest of Alexandria by Diocletian, 296, and the suppression of the rebellion of the pretender Achilleus. It appears to have been in the vicinity of a circus, forum, or gymnasium The obelisk stood on some fragments of Egyptian monuments of remote antiquity, consisting of a piece with the name of a monarch of the 13th Egyptian dynasty, and another with that of Psammetichus I., the former of which is now in the British Museum.—Wilkinson's *Modern Egypt*, I. 149 and foll.; White, *Ægyptiaca* 1, and foll.; Champollion-Figeac, *L'Egypte*, 472; Norden, I. 22.

POMPHOLYX, n. *pŏm'fō-lĭks* [Gr. *pompholux*, a bubble or blister]: flowers of zinc; an eruptive skin-disease.

POMPION, n. *pŏm'pĭ-ŏn* [F. *pompon*, a melon]: a pumpkin; the *Cucur'bĭta pepo*, ord. *Cucur'bĭtăcĕæ*.

POMPIRE, n. *pŏm'pīr* [L. *pomum*, an apple or similar fruit; *pirum*, a pear]: an apple; a sort of pearmain.

POMPO'NIUS ME'LA: see MELA.

POMPOSO, ad. *pŏm-pō'sō* [It.]: in *music*, grandly: ADJ. dignified.

POMPOUS, POMPOSITY, etc.: see under POMP.

PONANI, *pō-nâ'nĭ*, or PANIANI, *pâ-nĭ-â'nĭ:* seaport town of Brit. India in the dist. of Malabar, about 600 m. s.e. from Bombay. The people are employed in fishing and in trade. Pop. 12,000.

PONCAS, *pŏn'kaz:* tribe of N. American Indians, remotely of the Omaha family, more recently of the Dakota. When first known to the whites they lived on the Red river of the north, whence they removed to Mo., and settled on the Ponca river after being defeated by the Sioux. In 1858 they sold their land between Iowa creek and White Earth river to the govt.; in 1865 they received by treaty a reservation of 576,000 acres near the junction of the Missouri and Niobrara rivers in Knox co., Neb.; and subsequently a portion was removed to the part of Indian

Terr. now organized as Oklahoma Terr. Their agencies are under the spiritual care of the Prot. Episc. Church. In 1890 there were 296 males and 309 females (total 605) on the Oklahoma reservation, and 105 males and 112 females (total 217) in Neb.; total, 401 males and 421 females (total, 822).

PONCE DE LEON, *pōn'thā dā lā-ōn'*, JUAN: Spanish adventurer: 1460–1521; b. Leon, Spain. After brave service in the Moorish wars, he took part in the second voyage of Columbus, 1493, and was made gov. of a province of Hispaniola. In 1509 he conquered Porto Rico, and became gov. there, but was superseded on account of his severity. Led by a hope of finding the fountain of youth, he discovered Florida 1513, and named it either in honor of the 'flowery Easter,' the day of his landing, or because it is a flowery land. This landing was near the present St. Augustine. After cruising around the peninsula, he returned to Spain, was made gov. of Fla., which he colonized 1521; but, wounded in battle with the Indians, he retired to Cuba, where he died.

PON'CE DE LEON', Fray LUIS: Spanish poet: about 1528–1591, Aug. 23; b. probably at Granada. In 1544 he entered the order of St. Augustine at Salamanca, where he studied, took his degree in theol. 1560, and was appointed prof. of theol. 1561. He was accused to the Inquisition 1572 of disregarding the prohibition of the church; as he had made a new translation of the Song of Solomon, and brought out prominently, in his arrangement of the verses, the true character of the original—viz., that of a pastoral eclogue—an interpretation not adopted by the church. The charge of Lutheranism, also brought, he quickly disposed of—for he had in reality no inclination to a foreign Protestantism; but the charge as to his unauthorized translation of the sacred writings was true, and P. was imprisoned. After five years he was released through intervention of powerful friends, and was reinstated in his chair at the university. The numerous auditory that assembled to witness the resumption of his lectures, were amazed when P. began with these simple words: 'As we observed in our last discourse'—thus sublimely ignoring the cause and the duration of his long absence from his lecture-room. In 1580 P. published a Latin commentary on the Song of Solomon. P. lived 14 years after restoration to liberty, but his terror of the Inquisition never quite left him, and he was very cautious in his public utterances. P.'s poetical reputation was wholly posthumous, for though his *De los Nombros de Christo* (on the Names of Christ), (Salamanca 1583–85), and *La Perfecta Casada* (The Perfect Wife), (Salamanca 1583), are full of imagery, eloquence, and enthusiasm, yet they are in prose. His poetical remains, published first by Quevedo at Madrid 1631, and often reprinted, consist of translations from Virgil's *Eclogues* and the *Georgics;* from the *Odes* of Horace, and other classical authors, and from the Psalms. His original poems are few, but they are considered among the most precious in the author's language, and have given P. a foremost place among Spanish lyrists. According to Ticknor: 'Luis de Léon had the soul of a Hebrew, and his enthusiasm was almost always kindled by the reading of the Old Testament. Nevertheless, he preserved unaltered the national character. His best compositions are odes composed in the old Castilian versification, with a classic purity and a vigorous finish that Spanish poetry had never till then known, and to which it has with difficulty attained since.' See Nicolas Antonio, *Bibliotheca Hispana Nova;* Ticknor, *History of Spanish Literature;* and Villemain, *Essais sur la Poésie Lyrique.*

PONCHO, n. *pŏn-chō* [Sp.]: form of cloak worn by Sp. Americans, being merely a blanket or length of woolen cloth, 5–7 ft. long, 3–4 ft. broad, having in the middle a slit through which the wearer passes his head, so that the poncho rests upon the shoulders and hangs down before and behind. In some fashions of recent times, the P. has been introduced in Europe.

POND, n. *pŏnd* [AS. *pyndan*, to shut in: comp. Ger. *spund;* F. *bondon*, a bung, a stopper, and thence the thing stopped up]: a piece of water penned or dammed up; a small piece of still water, generally artificial. POND-LILY (see WATER-LILY).

POND, *pŏnd*, ENOCH, D.D.: theologian and author: 1791, July 29—1882, Jan. 21; b. Wrentham, Mass. He graduated at Brown Univ. 1813; studied theology with the noted Dr. Emmons; was pastor at Auburn, Mass.; editor of *The Spirit of the Pilgrims* 1815–28; elected prof. of theol. and lecturer on pastoral duty at Bangor Theol. Seminary 1832; and made emeritus prof. 1870, but acting as pres. until his death, which occurred at Bangor. His writings were very numerous; the most widely circulated were *Christian Baptism* (1817); *Morning of the Reformation* (1842); *No Fellowship with Romanism* (1844); *Review of Second Advent Publications* (1844); *The Young Pastor's Guide* (1844); *The World's Salvation* (1845); *Probation* (1846); *Swedenborgianism Reviewed* (1846, *the same Examined* 1861); *The Church* (1848); *Review of Bushnell's God in Christ* (1848); *The Ancient Church* (1851); *Prize Essay on Congregationalism* (1867). Besides these, he published memoirs of Samuel Davies, Count Zinzendorf, Increase Mather, John Knox, etc.; works on Plato, Wicliffe, N. Eng. theol. history, and church history. His lectures also were printed: on *Pastoral Theol.* (1866), and *Christian Theol.* (1868).

PONDER, v. *pŏn'dėr* [F. *pondérer*, to poise, to balance —from L. *ponderārĕ*, to weigh in the mind, to ponder— from *pondus*, a weight: It. *ponderare*]: to weigh in the mind; to examine; to consider; to think on. PON'DERING, imp. PON'DERINGLY, ad. *-lĭ.* PON'DERED, pp. *-dėrd.* PON'DERER, n. *-dėr-ėr*, one who ponders. PON'DERABLE, a. *-ă-bl*, that may be weighed; having appreciable physical weight—opposed to *imponderable.* PON'DERABIL'ITY, n. *-bĭl'ĭ-tĭ*, or PON'DERABLENESS, n. *-bl-nĕs*, the quality or state of being ponderable. PON'DERAL, a. *-ăl*, determined by weight—opposed to *numeral.* PON'DEROUS, a. *-ŭs*, weighty; massive; in *OE.*, important; momentous; forcible. PON′DEROUSLY, ad. *-lĭ.* PON′DEROUSNESS, n. *-nĕs*, or PON′DEROS′ITY, n. *-ŏs′ĭ-tĭ*, the state of being ponderous; heaviness; greatness in weight.—SYN. of 'ponder': to muse; examine; consider; weigh; meditate; contemplate; reflect; regard.

PONDICHERRY, *pŏn-dĭ-shĕr′ĭ*, F. *pōng-dē-shār-rē′:* chief of the French settlements in India; in the dist. of South Arcot, in the Madras Presidency. The town stands on a sandy plain, and is divided by a canal into a European and a native town. It has a handsome square, where are the gov.gen.'s house, the Rom. Cath. cathedral, and the bazaar. In P. is the high court for the French possessions in Asia, a European college, and an Indian school. The open roadstead is defended by a citadel, and possesses a light-house; and from it mail steamers sail for Europe, Madras, etc. The gov. of P. is gov.gen. of the French possessions in India. Spinning of cotton and fabrication of cotton-thread are the chief manufactures in French establishments.

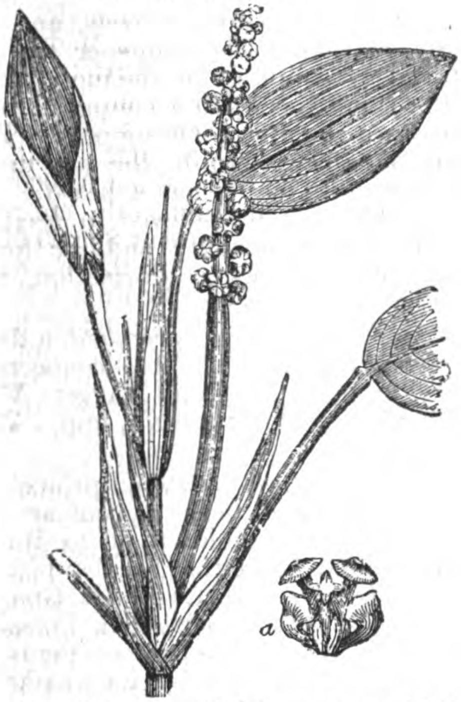
French Indian Possessions.—Besides P., the French establishments are Mahé in Malabar, Karikal (q.v.) in Tanjore, Yanaon in Godavari, and Chandernagore (q.v.) in Bengal: the extent of the united territories is given by M. Block at 188 sq. m. P. is on the Coromandel Coast, 11° 56′ n. lat., and 79° 54′ e. long., 88 m. from Madras. The territory of P. is divided into three districts—Pondicherry, Vellenore, and Bahour—has 107 sq. m., and comprises 92 villages. Total pop. of the French establishments in India estimated (1840) 171,217; (1880) 283,022. Pop. of the town of P. about 50,000; of dist. of P. about 90,000.—The town exports indigo, cotton, skins, nuts, oils, etc.: value of its exports and imports combined, about $3,000,000 annually.

History.—The first settlement of the French in India was at Surat 1668. The chief of the French E. India Company at that time was Carou. Subsequently he took Trincomalee from the Dutch; but they were not long in repossessing themselves of it. Carou then turned to the Coromandel coast. In 1672 he took from the Dutch St. Thomé, a Portuguese town (now a suburb of Madras); but two years later, the Dutch retook this place also. Then François Martin collected about 60 Frenchmen and settled them in P., which, in 1674, he had purchased, with the surrounding territory, from Giugee, who had the supervision of all Sivaje's conquests in the country. The Dutch took the town 1693; but by the treaty of Ryswick it was restored to the French 1697. Chandernagore was ceded to the French 1688 by Aurungzebe. In 1727 they obtained the cession of Mahé; 1739 they purchased Karikal from the king of Tanjore; and 1752 Yanaon was ceded to them. Dupleix was gov. of P. when war broke out between France and England; and 1746 La Bourdonnais took Madras. In 1748 Admiral Boscawen besieged P., but two months later was compelled to raise the seige. The peace of Aix la Chapelle in the same year did not put an end to hostilities in India till some time later. In 1757 war recommenced. In 1758 Count de Lally became gov.gen., and attacked the English settlement of Fort St. David, which surrendered, and was totally destroyed. In 1761 Eyre Coote took Pondicherry. By the peace of Paris, P. was restored to the French 1763 with reduced territory, and also Mahé, Karikal, and Chandernagore. P. was again taken by the English under Sir Hector Monro 1778, and restored, 1783. In 1793 the English again repossessed themselves of it, but the treaty of Amiens in 1802 again restored it, but only till the following year. From this time it was held by the English till, by the treaties of 1814–5, it was for the last time restored to France, reduced to the narrow limits assigned by the treaty of 1783.

Yanaon is in the Godavari District, about 24 m. s. of Rajahmundry; area, about 5 sq. miles.

Mahé is in the Malabar District, 4 m. s. of Tellicherry; area about 2½ sq. miles.

PONDOLAND, *pŏn'do-land:* district about 60 m. square, easternmost part of what was formerly Kaffraria Proper (q.v.), on the Natal frontier, s. Africa. It was the last of the independent Kaffrarian districts absorbed, having been annexed to Cape Colony by imperial authority in the end of 1884. It is inhabited by the Pondos or Amampondos, a Kafir (q.v.) tribe.



Pondweed: *a*, expanded flower (magnified).

PONDWEED, *pŏnd'wēd* (*Potamogēton*): genus of plants of nat. order *Naiadaceæ*, having hermaphrodite flowers, sessile upon a spike or spadix, which issues from a sheathing bract or spathe, a perianth of four scales, four sessile anthers opposite to the scales of the perianth, four pistils, which become four small nuts, and a curved embyro.

Gray's Manual describes more than 30 species and varieties in the United States. The species abound chiefly in the rivers, lakes, and ditches, and they are found in other parts of the world. They often present a beautiful appearance in clear streams and ponds, where they protect the spawn of fish and harbor aquatic insects, their seeds also affording food to aquatic birds. The roots are a favorite food of swans. Some species have the leaves all submerged, others have some of their leaves floating, and considerably different in form from the submersed leaves.

PONE, n. *pōn* [N. American Indian]: bread made of Indian meal, with eggs and milk.

PONENT, a. *pō'nĕnt* [L. *ponèns*, or *ponen'tem*, placing, setting—from *pono*, I place]: in *OE.*, western; occidental; setting: see note under LEVANT.

PONGEE, n. *pŏn-jē'* [native name]: inferior kind of Indian silk.

PON'GO (*Simia* or *Pithecus Wormbii*): ape of the same genus with the Orang-utan or Orang (q.v.), but of much larger size, six ft. or more from the heel to the crown of the head, and covered with black hair, with which dark red hair is mingled. This largest known ape is a native of Borneo, Sumatra, and probably neighboring islands; inhabiting the deepest recesses of the forests, and much more rarely seen by man than its congener the orang-utan, which was formerly supposed by the most eminent naturalists to be the same species in a younger state. The P. is called sometimes the Black Orang-utan. It has a very prominent muzzle, a large mouth, the face nearly naked, except the lower part, which has a beard. Little is yet known of its habits. It is believed to feed chiefly on fruits. It possesses great strength, and like the orang-utan is evidently adapted by its conformation for moving chiefly among boughs of trees.

PONIARD, n. *pŏn'yârd* [F. *poignard*, a dagger—from *poing*, a fist—from L. *pugnus*, a fist—connected with the root of *pungere*, to prick]: a small dagger: V. to stab or pierce with a poniard. PON'IARDING, imp. PON'IARDED, pp. *-yâr-dĕd.*

PONIATOWSKI, *po-ne-â-tŏv'skē:* princely family of Poland. The accounts of their descent are conflicting. Perhaps the most usual refers them to Italian origin, as directly descended from the Lombard family of the Torelli, whose ancestors were Counts of Guastalla. One of the Torelli family having settled in Poland, assumed the name P. from his wife's estate of Poniatow in that country. Those of the P. family who make a figure in history are Prince STANISLAS CIOLEK P. (1677–1762), who, in the war of succession to the kingdom of Poland, joined Charles XII. of Sweden in supporting Stanislas Lesczynski; his sons, STANISLAS-AUGUSTUS (1732–98), last king of Poland (q.v.), and ANDREW (1735–73), who rose to great distinction in the Austrian service; and Andrew's son, Prince JOSEPH-ANTON (see below).

PONIATOWSKI, JOSEPH-ANTON: Prince and Marshal of France: 1762, May 7—1813, Oct. 19; b. Warsaw; son of Andrew P. (see PONIATOWSKI). At the age of 16 he entered the Austrian army, with which he made the Turkish campaign of 1787, and rose to the rank of col. of dragoons. In 1789 he returned to Poland, and was named commander-in-chief of the army of the south, having under him Kosciusko, Wielhorski, Lubomirski, and other celebrated leaders. His army, though much inferior in numbers to that of Russia which invaded the country 1792, gained the brilliant victories of Polonné and Zielencé; but P.'s uncle, King Stanislas, by agreeing to the convention of Targowitz (q.v.), put an end to the contest 1793. The prince then resigned his command, and went into voluntary exile, but returned in the following year to aid Kosciusko, now dictator, in his fruitless opposition to the third partition of Poland. On the proposal of Napoleon to reconstitute the kingdom of Poland, P. joined the French (1800) at the head of a Polish army, and did good service against the Russians at the battles of Golymin, Danzig, and Friedland; but the French emperor, by the treaty of Tilsit, handed over Poland to its enemies, and only the duchy of Warsaw (nominally subject to the king of Saxony) was left intact. P. was appointed generalissimo and commander-in-chief for the duchy; and so zealously did he labor for development of its military resources, that 1809 he was able to drive the Austrians out of the Polish territory, and to overrun a considerable part of Galicia. He continued to administer the military affairs of the duchy till 1812, when he joined the French army, moving to invade Russia, with a Polish army of 100,000 men. But to his intense disgust, the greater part of his army was broken up into detachments, which were incorporated with the various French legions, and P. was left with not more than 30,000 men under his direct command. At the head of this division, which always composed the extreme right of the French army, P. gathered innumerable laurels on the battlefield, and at the storming of the Russian fortresses; but he was so severely injured at Smolensko during the retreat, that he was obliged to return to Warsaw 1812, Dec. In the following autumn he resumed his old place in the French army, and Oct. 16 received from the emperor the dignity of Marshal of France, an honor, in his own estimation, much inferior to that of 'generalissimo of the Poles,' which he already possessed. After the defeat at Leipzig (q.v.), P. was left with the remnant of his Polish division to protect the French retreat, which he accomplished by keeping the Prussians in check for several hours; at last, when his force was reduced to 300 men with 30 horses, and himself severely wounded, he retreated over the Pleisse, swimming his horse through the river; but in attempting similarly to cross the Elster, was fired upon, and, exhausted by wounds, sank to rise no more. His body was recovered, embalmed and carried to Warsaw, whence it was removed to Cracrow, and placed beside the ashes of Sobieski and Kosciusko.

PONS, n. *pŏnz* [L., a bridge]: in *anat.*, any bridge-like structure, as *Pons hepatis*, a bridge across the umbilical fissure of the liver, *P. Varolii* (the bridge of Varolius), a commissure uniting the two hemispheres of the cerebellum.

PONS ASINORUM, *pŏnz ăs-ĭ-nō'rŭm* [L.]: asses' bridge, or bridge for asses: artificial aids to enable the stupid or indolent scholar to surmount difficulties in the field of learning. The phrase P. A. seems to have originated in the 15th c., and to have been applied first to a treatise of Johannes Buridan, a noted schoolman and commentator of Aristotle—the *Summula de Dialectica*, the aim of which has been represented to be chiefly to supply rules for the easy and rapid discovery of 'middle terms' for syllogisms: thus would the dullest student be made a ready argumentator, able to hold his ground in a disputation on any subject. But the *Summula* cannot be fairly described as a work of that kind. Later the term P. A. was applied to the 5th theorem of the 1st book of Euclid, apparently on the principle of *lucus a non lucendo:* that theorem is a bridge over which a donkey (i.e., a dunce) either cannot pass at all, to become a geometer, or passes with much stumbling. The 47th proposition of the same book of Euclid also has been called by some Pons Asinorum.

PONTAC, n. *pŏn'tăk* [*Pontac,* in south of France]: a fine kind of claret wine.

PONTA DELGADA, *pōn'tâ dĕl-gâ'dâ*, or PONTE DELGA'DA, *pōn'tā:* town on the s. coast of the island of St. Michael, one of the Azores (q.v.), lat. 37° 40′ n., long. 25° 36′ w. It is defended by the Castle of St. Braz, which can mount 90 pieces of cannon, and by the forts of São Pedro and Rosto de Cão. The anchorage in the roadstead is bad and the harbor is shallow, but still the trade (largely in the hands of English merchants) is the most considerable of all the towns in the Azores. The chief exports are wheat, maize, and oranges. Pop. (1878) 17,940.

PONTAGE, n. *pŏn'tāj* [F. *pontage*, pontage—from L. *pons*, or *pontem*, a bridge]: a tax paid for the repair of a bridge; the toll paid for passing over a bridge.

PONT-À-MOUSSON, *pōng-tâ-môs-sōng':* town of France, dept. of Meurthe-et-Moselle, on the railway from Nancy to Metz, 20 m. n.n.w. of Nancy. The Moselle flows through the town, which is in a fruitful valley. There is a fine Gothic church dedicated to St. Martin. P. was the birthplace of Marshal Duroc, favorite of Napoleon. It has large cavalry barracks, and some manufactures of pottery. Pop. 10,000.

PONTCHARTRAIN, *pŏnt-chĕr-trān'*, LAKE: body of water in La., about 5 m. n. of New Orleans, with which it communicates by a canal. It is 40 m. long, 24 m. in extreme width; is navigated by small steamers, and communicates on the e. with the Gulf of Mexico, and on the s. with the Mississippi. Its greatest depth is 16 to 20 feet.

PON'TE, GIA'COMO DA: see BASSANO.

PONTECORVO, *pōn-tā-kōr'vō:* city of s. Italy, province of Caserta, on the river Garigliano, 37 m. n. w. of Capua. The people mostly are engaged in agriculture. It has an old castle, many churches, and is a bishopric. It formerly belonged to the pope; but since 1860 it forms part of the kingdom of Italy, and is a sub-prefecture. Napoleon I. gave the title Prince of Pontecorvo to Marshal Bernadotte, afterward king of Sweden. Pop. about 10,000.

PONTEDERA, *pōn-tā-dā'râ:* town in the province of Pisa, Italy; on the torrent Era, near its confluence with the Arno, 13 m. s.e. of the city of Pisa. In the middle ages, during the wars between Florence and Pisa, it was a walled and strongly fortified place, whose possession was the subject of fierce contention between these rival powers which held it alternately. It has now important manufactures of brick, cotton, woolen, and hempen goods. Pop. 10,817.

PONTEE, n. *pŏn'tē* [F. *pontil*, tool used to skim liquid-glass]: in *glass-works*, the iron rod with which a portion of the liquid glass is gathered up and taken out of the glass-pot—also written *pontil*, *puntel*, and *punty*.

PONTEFRACT, *pŏn'tĭ-frăkt* (commonly pronounced *pŏm'frĕt*): market-town and municipal and parliamentary borough, in the county of York, England, 24 m. s.s.w. of the city of York, on the Lancashire and Yorkshire railway. There are two churches, St. Giles and All-Saints, the latter in the Early English style, with a handsome tower. There are good schools, several almshouses, large workhouse, splendid market hall, etc. In the vicinity are extensive gardens and nurseries. Eight fairs for sale of cattle take place annually. The trade is chiefly in corn, licorice, and malt. The castle of P., built shortly after the Conquest, a large and strong edifice on a commanding height, was the scene of the imprisonment and death of Richard II.; and here also Rivers, Grey, and Vaughan were put to death, at the instigation of Richard III. The remains of the castle at the present day are very meagre.—Pop. of mun. bor. (1871) 6,432; (1881) 8,798; of parl. bor. (1871) 11,653; (1881) 15,329.

PON'TEFRACT CAKES: small lozenges of refined licorice, which have for centuries been made at Pontefract, England, and are much esteemed. They are impressed with a rude castellated figure, intended to represent Pontefract Castle.

PONTEVEDRA, *pōn-tā-vā'drâ:* town of Spain, in Galicia, on a peninsular slope near the mouth of the river Lerez, 35 m. s. of Santiago. P. is a clean and pretty place, with lofty old walls, granite houses, broad streets, and pleasant arcades. It takes its name from the old bridge (*Pons Vetus*) that spans the river. The Pontevedrans are engaged chiefly in agriculture, though sea-fishing is carried on, and there are some manufactures. The neighborhood, of which charming views are obtained from parts of the town, is covered with villas, farms, and woodlands. Pop. 4,800.

PONTIAC, *pŏn'tĭ-ăk*: city, cap. of Oakland co., Mich.; on Clinton river and the Grand Trunk and P. and the Oxford and Port Austin railroads; 26 m. n.n.w. of Detroit, 34 m. n.e. of Ann Arbor. It is beautifully situated amid a cluster of small and attractive lakes, and has a large trade in wool and agricultural produce. The public buildings include co. court-house, state reform-school, state insane asylum, 9 churches, high school, and 3 public schools. There are several flour-mills, planing-mills, brick-yards, and iron-foundries; 2 national banks (cap. $200,000); and 3 weekly newspapers. Incorporated 1861. Pop. (1880) 4,509; (1890), 5,486.

PONTIAC, *pŏn'tĭ-ăk:* chief of the Ottawa Indians: 1720–1769; b. near the Ottawa river. By birth and tribal alliances he became chief of the Ottawa, Ojibway, and Pottawattamie tribes. As an ally of the French he defended Detroit against attack by several n. tribes 1746; is supposed to have been present with the Ottawas at Braddock's defeat 1755; opposed Maj. Rogers's invasion of the Indians' territory 1760; and two years afterward organized a conspiracy among numerous tribes for extermination of all English garrisons in their vicinity. They attempted first the capture of Detroit, but the garrison, warned in time, made a successful resistance. Then the English resolved to attack the Indians (1763, July 31); but they had been warned by Canadians, and leading the English into an ambuscade at the Bloody Bridge, defeated them severely. May 12—Oct. 12 the Indians captured Forts Sandusky, St. Joseph, Miami, Ouatanon, Mackinaw, Presque Isle, Le Bœuf, and Venango, and massacred the garrisons. P. abandoned the siege of Detroit Oct. 12, and retired to the Maumee river, having lost much influence over his followers. He then attempted to renew organized warfare on the English, but Sir William Johnson pacified the Indian leaders, and induced P. to sign a treaty of peace at Oswego 1766. P. was assassinated at Cahokia, Ill., by a Kaskaskia Indian.

PONTIANAK, *pŏn-tē-â-nâk':* city, cap. of the kingdom of P., on the w. coast of the island of Borneo, near the junction of the Landak and Kapuas. It is built on both banks of the river, which is 900 ft. broad, and thence to the sea is called the P. The city is important as the seat of the Netherlands' Resident, who rules directly and indirectly over the whole w. coast, 2° 56′ s.—2° 50′ n. lat., and 108° 45′—112° 50′ e. long.; territories rich in vegetable and mineral wealth. The Residency House is near Fort Du Bus, 0° 2′ n. lat., and 109° 1′ 30″ e. long.; other principal buildings being the sultan's palace, the mosque, and hospital. Trade is the only pursuit in the town; and the rich alluvial lands are partly cultivated for rice, sugar-canes, cotton, indigo, coffee, provisions, and fruits. Pop. of city 7,000, including 2,000 Chinese.

Dutch Possessions and Protectorate.—Besides a number of small dependencies, the Netherlands' Resident at P. governs the important kingdoms of Landak, Mampawa, and Sambas, with the mining district of Montrado, in the n.; Tayang, Simpang, and Matan or Succadana, to the south;

and Sangouw, Sekadouw, and Sintang, in the interior. An assist. Resident administers in the s.e. division of Dutch Borneo. The produce consists of diamonds, gold, coal, tin, iron, wax, edible nests, pepper, gutta-percha, etc. There are many gold mines in Montrado and other districts; rich iron ores in Matan; gold, platina, copper, etc., in Sambas; and in former times, Landak was rich in diamonds, but the product is now small. In this district was found the famed diamond of the Sultan of Matan, which weighed 367 carats. The annual produce of the mines in the Residency of P. is estimated at not less than 425,000 ounces of gold. Pop. about 400,000; of whom 250,000 are Dyaks, 90,000 Malays, 25,000 Chinese, and about 150 Europeans.

The Dutch imports and exports have each a value somewhat less than $1,000,000 a year. There are about 70 vessels above 10 tons burden belonging to the w. division of Borneo, with tonnage about 1,700 tons. The other Netherlands possessions in Borneo are called the Residency of the South and East Division, including the lands from Matan, in the s.w., along the s. and e. coasts to 0° 50′ n. lat. The Resident's house is at Banjermassin, on the island of Tatas, 15 m. from the mouth of the Banjar, 3° 34′ 40″ s. lat., and 114° 30′ e. long. Pop. 30,000. The exports are—pepper, diamonds, gold-dust, coal, benzoin, wax, ratans, dragon's-blood, camphor, edible nests, iron, firearms, etc. Imports—piece-goods, powder, knives, opium, rice, salt, sugar, Chinese porcelain, silk-stuffs, coral, pearls, etc. In one year the coal-mines of Orange-Nassau produced 3,650 tons. On the e. coast there is coal, and the sultan of Kūtei delivers it according to contract, for the use of the Dutch navy, at about $5 per ton. The imports of the S. and E. Residency have an annual value about $1,250,000, and the exports about $600,000. The vessels above 10 tons belonging to it are about 30 with tonnage 2,500 tons. At Nagara (pop. 10,000), in Banjermassin, are important factories of firearms and other weapons.

There has been constant war on the s. and e. coasts since 1859. In 1860 the direct govt. of Banjermassin was assumed by the Resident, but the interior of the kingdom has always been disturbed, especially in 1873, through the war with Atcheen (q.v.) inciting the Mohammedan population against the Dutch. In 1873 the pop. of the s. and e. division was 869,763, of whom 403 were Europeans, and 2,643 Chinese.—See *Borneo's Westerafdeeling, Geographisch, Statisch, Historisch* (P. J. Veth, Amsterdam); the latest Colonial Reports by the Netherlands Sec. of State for the Colonies, etc.

PONTIC, a. *pŏn′tĭk* [Gr. *pontos*, the sea]: pertaining to the *Pontus*, or Black Sea.

PONTIFEX, n. *pŏn'tĭ-fĕks*, plu. PONTIFICES, *pŏn-tĭf'ĭ-sēz* [L. *pontifex*, *lit.*, a path or bridge maker—from *pons* or *pontem*, a bridge, and *facĕrĕ*, to make: F. *pontife:* It. *pontefice*]: in *anc. Rome*, a high-priest. PONTIFF, n. *pŏn'-tĭf*, a high-priest; a title applied to the pope, though he is usually styled the *supreme pontiff* (see below). PONTIFICAL, a. *pŏn-tĭf'ĭ-kăl*, in *Milton*, of or pertaining to bridge-building; also PONTIF'IC, a. *-ĭk*, of or relating to a high-priest or to the pope: thence splendid; magnificent. PONTIF'-ICAL, n. book containing ecclesiastical rites and ceremonies (see below): PLU. the full dress and ornaments worn by an officiating priest or bishop. PONTIF'ICALLY, ad. *-lĭ*. PONTIF'ICATE, n. *-kāt*, office or dignity of a high-priest or of the pope; the reign of a pope: V. to exercise solemn priestly functions with full ceremonial, said of the higher dignitaries of the Rom. Cath. Chh., as 'to pontificate at high mass.'

PONTIFEX, *pŏn'tĭ-fĕks* [see PONTIFEX]: among the ancient Romans, title borne by the members of one of the two great colleges instituted for preserving and cultivating religious knowledge; the other was the college of Augurs: see AUGURIES and AUSPICES. It is customary to speak of the college of pontiffs as a 'priesthood;' however, strictly speaking, it was not that—i.e., the members were not charged with the worship of any particular divinity, nor did they conduct sacrifices. Their duties comprised the regulation of all the religious rites and ceremonies (both public and private) of the state—e.g., the mode in which the gods should be worshipped, burials conducted, and the souls of the dead (manes) be appeased. To the pontiffs was intrusted the care of the calendar, the proclamation of festival days, etc. They also saw that every religious and every judicial act took place on the right day. 'As they had thus,' says Dr. Mommsen, 'an especial supervision of all religious observances, it was to them in case of need (as on occasion of marriage, testament, or *arrogatio*) that the preliminary question was addressed, whether the matter proposed did not, in any respect, offend against divine law.' In matters of religion, they were the supreme authorities; from their decisions there was no appeal, and they themselves were responsible neither to the senate nor the people; further, they had power to inflict punishment on such priests as dared to disobey their injunctions and deviate into schismatical courses. The words of Festus are: *rerum quæ ad sacra et religiones pertinent*, JUDICES ET VINDICES. Their president was termed *pontifex maximus*.

The pontiffs, according to Roman tradition, were instituted by Numa—a mythical person, to whom the origin of nearly all the religious institutions of Rome is ascribed. But as they appear in all the Latin communities, they are regarded by Mommsen as a 'thoroughly national Italian institution,' and probably found a place in the earliest religious organization of the Latin race. Their number was originally four, or, including the *pontifex maximus*, five, all of whom were taken from the patricians. B.C. 300 the Ogulnian Law raised the number to nine, four of whom were to be plebeians. The first plebeian who attained the dignity of *pontifex maximus* was Tib. Coruncanius, B.C. 254. Sulla, B.C. 81, again increased the number to 15, and Julius Cæsar to 16. During the empire, the functions of *pontifex maximus* were generally discharged by the emperors themselves; and the name survived even the establishment of Christianity, occurring in inscriptions of Valentinian, Valens, and Gratianus; but at length the emperors dropped it, and it was picked up by the Christian bishops of Rome; and now forms one of the sacred designations of his holiness the pope.

PONTIFICAL, *pŏn-tĭf'ĭ-kal:* one of the service-books of the Church of Rome, in which are contained the several services, whether in the administration of sacraments, or the performance of public worship, in which the bp. exclusively, or at least a priest delegated by the bp., officiates. There were many such collections for the various national churches; but that now in use throughout the Western Church is the *Pontificale Romanum,* or Roman Pontifical, as published by authority of Clement VIII. 1596, and repeatedly republished. The P. contains the services for ordinations, for religious professions, and receptions of monks and nuns, consecrations, benedictions, etc., as well as of the solemn administration by a bishop of those sacraments ordinarily administered by priests. Besides the prayers to be recited, the P. lays down the cermonial to be observed. The rules of this ceremonial are of two kinds—*preceptive,* whose literal observance is obligatory; and *directive,* admitting of a certain interpretation.—Another of the service-books of bishops is called the 'Ceremoniale;' but it is chiefly confined to a description of the peculiar ceremonial with which bishops are required to celebrate solemnly those offices, as of the mass, vespers, the funeral office, etc., which are common to them with priests. The most prized editions of both these service-books are those published by authority of the learned pope, Benedict XIV.

PONTIF'ICAL STATES: see PAPAL STATES.

PONTIFICE, n. *pŏn'tĭ-fĭs* [L. *pons* or *pontem,* a bridge, and *facĕrĕ,* to make]: in *OE.,* the edifice of a bridge.

PONTIGNY, *pōng-tēn-yē':* village in France, nearly 20 m. from Auxerre. It is noted as the seat of a splendid abbey, founded 1150, at which Thomas à Becket found a refuge 1164, and several English bishops at a later period. In the middle ages it became a resort for pilgrims. The Huguenots burned both the abbey and the magnificent church 1568. A portion of the former was repaired and is used by the Dominicans. The church, built in Gothic style in the 14th c., has been restored by the govt. to its former glory, and is still visited by Rom. Cath. pilgrims.

PONTINE, a. *pŏn'tĭn* or *-tīn* [L. *Pomptīnæ Palūdes*, the Pontine Marshes: It. *Pontino:* F. *Pontin*]: applied to the extensive marshes or sea-fens near Rome. The *Pontine Marshes* form a low-lying district, the s. part of the Campagna di Roma; and extending s.e. from Cisterna to the sea at Terracina; greatest length about 30 m., breadth 4 to 11 m. The dist. does not reach the sea-coast on the w., being separated from it by a broad sandy track covered with forest; but even this barrier partakes to some extent of the character of the marshes themselves, being quite as flat, and largely intermixed with swamp and lagoon. The marshes have undoubtedly been formed by stagnation of the streams that rise in the Volscian Hills, and by the accumulation of sand along the shore from Astura to the Circeian promontory, but this formation as undoubtedly belongs to prehistoric ages. There is no reason to believe that these marshes were, in ancient times, essentially different from what they are at present. Pliny, indeed, on the authority of a contemporary, Mucianus, states that at one period they had contained 24 or even 33 cities; but no confirmation of this statement is found in any earlier writer, and not a single name of these cities has been preserved. The first attempt to drain the marshes in ancient times was in B.C. 160 by the consul, Cornelius Cethegus; but his efforts were only partially successful, for toward the close of the republic, the region had become as marshy as ever. Julius Cæsar, among his vast schemes for improvement of the commonwealth, projected one for the drainage of this pestilential district, but his murder prevented its complete realization. Augustus also appears to have done something; but in the time of Juvenal, it was a mere haunt of robbers. Theodoric, the Goth, likewise tried to reclaim it; but the desolations of succeeding reigns soon reduced it to a hopeless condition, and it continued an uninhabitable region until the close of the middle ages. The first in modern times to resume the effort of the ancients was Pope Boniface VIII., who drained the district about Sezzo and Sermonetta by a large canal. In 1417 Martin V. made another canal, the *Rio Martino*, which was dug to within a mile of the sea; but after his death, the project was given up. Several additional efforts were made; but nothing was accomplished till the time of Pope Pius VI., who, 1778, began to drain the marshes, and completed the drainage in ten years. The reclamation of the land, however, has been found possible only in part. Though much is under cultivation and in pasturage, a great portion is hopelessly irreclaimable; and the whole region is so unhealthful, that in the summer the inhabitants are driven to the neighboring mountains.—The famous Appian Way (q.v.) went through the P. M.; and after being unused for centuries, was reopened by Pius VI.

PONTLEVIS, n. *pŏnt'lĕ-vĭs*, or *-lē'-* [F. *pont-levis*, a drawbridge—from L. *pons*, a bridge; *lĕvis*, light]: the resistance of a horse by rearing repeatedly on his hind legs.

PONTOON, n. *pŭn-tôn'* [F. *ponton;* It. *pontone*, a bridge of boats—from L. *pontōnem*, a punt, a pontoon—from *pons* or *pontem*, a bridge]: flat-bottomed boat, or any light framework or float (e.g., large copper or rubber cylinder or empty barrel), used in construction of a temporary bridge across a stream (see below). In hydraulic engineering, P. is a water-tight structure to be placed beneath a submerged vessel to aid in its floating; also a water-tight frame to be filled with water and sunk, rising when empty —used to close the entrance to a sluice or dock: see FLOATING DOCK. PONTONIER, n., or PONTONNIER, n. *pŏn'-tŏn-ēr'*, a soldier having charge of pontoons. PONTOON-BRIDGE, temporary bridge made by means of floating bodies. PONTOON-CARRIAGE, a light carriage with two wheels. PONTOON-TRAIN, equipment of carriages and materials carried with an army, for construction of bridges. —*Pontoon* is the name given to any buoyant support of a bridge. P.-bridges have been constructed, with greater or less skill, from earliest times. Darius passed the Hellespont and Danube by P.-bridges, and the Hellespont was traversed by Xerxes's immense army on similar temporary bridges, admirably formed. A P.-train is a necessity for every army manœuvring in a country where there are rivers, and many campaigns have proved failures from lack of this cumbrous but indispensable apparatus. In most armies, the pontoons are under charge of the engineers; but in the Austrian army there is a distinct and highly trained corps, called *Pontonieren.* Marlborough used clumsy wooden pontoons. Napoleon and Wellington had them lighter, of tin and copper. They were flat-bottomed, rectangular boats, open at the top. Anchored at stem and stern, beams were laid over from one to another, and transoms with planks crossing these beams completed the roadway of the bridge. These open pontoons were exposed to the disadvantage that they were very liable to be filled with water, and thus ceased to support the bridge. They were, moreover, very heavy, one P., with appurtenances, constituting a wagon-load. As 36 were deemed necessary for the train, a P.-equipment was a serious item in the *impedimenta* of an army. Hence the open bateau P. was for some time superseded by the closed cylindrical P. of copper or of India-rubber, which is far lighter, can in an emergency be rolled along the ground, and can be submerged only when perforated.—The pontoons of the U. S. army are of two kinds—viz., wooden bateaus and canvas bateaus (both open). The wooden bateau is a flat-bottomed boat about 31 ft. long; it weighs about 1,400 lbs. and has a flotation of about 18,000 lbs. The canvas bateau is flat-bottomed, and is of rectangular section except at the ends. At top the length is about 20 ft., at bottom 18 ft.; width 5 ft.; depth 2¼ ft. The skeleton of the canvas bateau consists of 2 side-frames connected by movable transoms: the canvas is made water-tight by application to both sides of a composition of hemp-seed oil, wax, India-rubber, and other ingredients. The canvas P. weighs about 700 lbs., and its flotation-power is about 13,000 lbs.—The closed cylinder P. of tin or copper has been largely superseded in the Brit. army service by canvas and wooden open bateaus. Capt. Fowke of the Brit. engineer corps invented a folding open bateau, made of waterproof canvas attached to sliding ribs, so that for transport it can be made to collapse like the bellows of an accordeon. Its 'theoretical buoyancy' (length 22 ft.) is 13,600 lbs., but its actual buoyancy in water is only 8,640 lbs. The latest form of P. for the Brit. army is the invention of Col. Blood, of the engineers. It is an open wooden bateau, 21½ ft. long, 280 cubic ft. displacement, actual flotation 17,500 lbs. This P. consists of 6 sets of framed ribs connected by a deep keelson, 2 side streaks and 3 bottom streaks. The sides and bottom are of thin yellow pine with canvas glued to both surfaces by India-rubber solution, and coated outside with marine glue. The process of throwing a bridge across in face of an enemy is fraught with the utmost danger to the engineers employed. P. bridges have to be passed with great care; and every measure should be adopted (breaking step, etc.) which can reduce the peculiarly dangerous vibration.

PONTOPPIDAN, *pon-tŏp'ĭ-dân*, ERIK: bishop and historian: 1698, Aug. 24—1764, Dec. 20; b. Aarhuus, Denmark. He studied theol. at the Univ. of Copenhagen, and on finishing his education became travelling tutor to several youths in succession. He was made adjunct prof. of theol. at Copenhagen 1738, and bp. of Bergen, Norway, 1747. He wrote many works on the history, geography, natural history, etc., of Denmark and Norway. P. is known to 'Anglic' readers best through his *Norges Naturlige Historie* (translated into Eng., *Natural History of Norway*), with its stories of the Kraken, sea-serpent, etc.

PONTREMOLI, *pōn-trĕm'ō-lē:* town in the province of Massa-Carrara, Italy, 700 ft. above the sea, 23 m. n.w. of Carrara. P. was an important place in the middle ages, strongly fortified, and defended by a castle which still overlooks the old town from a neighboring hill. The modern portion has a fine cathedral and well-paved streets. It is largely engaged in the cattle trade, and the manufacture of homespun linens, woolen goods, silks, etc. P. suffered from a severe earthquake 1834. In 1859 it passed under the rule of Victor Emmanuel. Pop. (1881) 12,614.

PONTUS, *pŏn'tŭs:* name given by the ancient Greeks to a country in n.e. Asia Minor, bordering on the Pontus Euxinus (whence its name), extending from the river Halys in the w. to the frontiers of Colchis and Armenia in the e. Its s. limits were the ranges of Anti-Taurus and Paryadres, so that it corresponded nearly to the modern pashaliks of Trebizond and Siwas. On the e. and s., P. is mountainous, but along the coast are large and fertile plains, now and in ancient times productive of abundance of grain, fruits, and timber. Game also, according to Strabo, was plentiful. The rearing of bees was carefully attended to, and honey and wax were among chief articles of commerce. Iron was the principal mineral.

Regarding the ancient inhabitants of P., nothing is known ethnologically. Greek colonies, indeed, flourished on the coast from B.C. 7th c., and doubtless spread some knowledge of civilization among the inland barbarians; but how far the latter were influenced thereby, we cannot tell. They appear first as divided into numerous tribes virtually independent, but owning nominal allegiance to the Persian kings, whose authority was represented by a hereditary satrap belonging to the royal family of Persia. One of these satraps, Ariobarzanes, by subjugating some of the Pontian tribes, B.C. 363, during the reign of Artaxerxes II., laid the foundations of an independent sovereignty. Ariobarzanes was succeeded B.C. 337 by Mithradates II., who took advantage of the civil confusions that followed the death of Alexander the Great to enlarge his dominions; but the greatest of these Pontine sultans, and one of the most formidable enemies that Rome ever encountered in the East, was Mithradates VI. (q.v.). On the overthrow of this potentate by Pompey, B.C. 65, the w. part of P. was annexed to Bithynia, and the rest parcelled out among neighboring princes. Subsequently, a grandson of Mithradates, Polemon, was installed monarch of central P.; but in the reign of Nero, it was voluntarily ceded to the Roman emperor, became a Roman province, and was called *Pontus Polemoniacus.* In the reign of Constantine, it underwent a new division. The principal towns of anc. P. were Amisus, Polemonium, Pharnacia, Cerasus, Trapezus, Apsarus, Cabira, and Neocæsareia.

PON'TUS EUXI'NUS: see BLACK SEA.

PONT-VOLANT, n. *pŏnt-vŏ'lănt* [F. *pont,* bridge; *volant,* flying]: a flying bridge; a kind of bridge used in sieges for surprising a post or outwork that has but a narrow moat. It is composed of two small bridges laid one upon the other, and so contrived that, by the aid of cords and pulleys, the upper one may be pushed forward till it reaches the intended point.

PONTYPOOL, *pŏn'tĭ-pôl:* small market-town of Monmouthshire, England, 20 m. w.s.w. of Monmouth, 10 m. n. of Newport, with both of which it is connected by railway. Japanned wares were long made here, but this manufacture has declined. Articles in polished iron are made, and the iron forges and coal and iron mines which surround the town employ many of the inhabitants. Pop. (1881) 5,244.

PONTYPRIDD, *pŏnt-e-prĭth';* called sometimes NEWBRIDGE: a town in Wales, on the Taff river, where it unites with the Rhondda, and on the Glamorganshire canal, 12 m. from Cardiff. It is one of the market-towns, and is famous for a fine single-arch bridge across the Taff, built by William Edwards, a self-educated mason. Near P. is a noted rocking stone, weighing 9½ tons, around which are remains supposed to date from the time of the Druids. Development of the coal and iron industry in the vicinity has given the town rapid growth. There are chemical works, iron and brass foundries, and manufactures of chains, cables, and anchors. Among the principal buildings are the court-house, masonic hall, and St. Catherine's Church. Pop. about 13,000.

PONY, n. *pŏ'nĭ* [Gael. *ponaidh*, a docked horse: comp. Pol. *konik*, a little horse—from *kon*, a horse]: common name of many small active breeds of Horse (q.v.), belonging to different countries, from India and Africa to Iceland: but in warmer countries found chiefly in mountainous or sterile regions. They are in general the property of man, and not truly wild; though, in very many cases, they live in almost a wild state, and receive no care or attention except when they are wanted for use. They are in general very hardy, and their strength is great in proportion to their size. They are often vicious, or at least playfully tricky, much more than is usual with larger horses. Ponies are very often covered with rough hair, and have large shaggy manes and forelocks. The *Shetland P.* is a very good specimen of these small races of horse. The *Iceland P.* is scarcely different from it, and is hardy enough to endure the winter of Iceland without shelter. The *Galloway*, *Welsh*, *Dartmoor*, *Exmoor*, and *New Forest* breeds are British races of P., larger than the Shetland. The progress of inclosure and cultivation in their native regions has so changed the circumstances in which they long subsisted, and in which, perhaps, they originated, that scarcely any of them are now seen of pure and unmixed race. Sardinia and Corsica have small races of P., which have subsisted unchanged from ancient times. In the Morea, there is a race of ponies, driven in herds to Attica for sale, exceedingly wild and vicious, but capable of being rendered very serviceable. There are many races in Europe and Asia. They differ considerably in size—some, like the Shetland P., suggesting a comparison with a large dog; some much larger. They differ much in color also; a dun or tan color, with a black stripe along the back, is prevalent in many. Ponies are seldom employed in agricultural labors; but they are of inestimable value in many wild and mountainous regions, from their hardiness and sure-footedness; and are used often as saddle-horses, the largest kinds being employed as horses for light cavalry.

There is no native breed of the P. in America. The mustang, found in Cal., Texas, and adjoining regions, and in Mexico, is unquestionably descended from horses which were imported by the early Spanish discoverers and explorers. Some of these horses became wild, and their descendants have greatly changed from the domestic type. The mustang is sometimes called the Indian Pony, but the latter name seems more properly to belong to the wild horses found farther north. These horses came probably from stock owned by French and English colonists. They resemble the mustangs, but are somewhat larger, and in some respects superior. Their number is much less than that of the mustangs. The mustang is sometimes called a broncho, but in some places the latter term is restricted to a cross between a mustang and a horse. The mustang is not often more than 13 hands high, has rather flat feet, and is almost wholly lacking in the beauty and grace of the domestic horse. He is strong, vigorous, is cheaply kept, and endures labor and hardship better than the horse. But the mustang is not often thoroughly trained, almost invariably retains some of the wildness of his nature, and is frequently vicious. He is liable to be scared, or to be seized with frenzy, and, for the time being, break loose from all control. Mustangs go in herds, each of which has its leader. When attacked by wolves, or other wild animals, the mares are formed in a circle, with their heads toward the centre. The colts remain within this ring, and the stallions range around the outside. In these contests the mustangs are invariably victorious. Frequent pursuit has made the mustangs very shy of man, but they are taken with the lasso by expert hunters. They are readily brought into moderate subjection: this is thought to be due to the fact of their descent from domesticated stock. In portions of S. America are many wild horses which resemble the mustangs of this country. They are supposed to be descended from a few horses imported from Spain at an early period, and which escaped from domestication about 1535.

POOD, **n.** *pôd:* a Russian weight of 36 lbs. avoirdupois.

POODLE, n. *pô'dl* [Ger. *pudel*, a poodle: Dut. *poedele*, to paddle in the water; *poedel-hond*, a rough water-dog]: a kind of dog, of stout form, with a short muzzle standing out abruptly from the face; ears of moderate length, and pendent; tail rather short. The P. is everywhere covered with long curled hair, which in many of the little barbets hangs to the very ground. No kind of dog exhibits greater intelligence or greater affection. The P. was originally German, but was extensively diffused throughout Europe during the wars of the French Revolution, and abundantly introduced into Britain by the soldiers who served in Spain and the Netherlands. It is very closely allied, however, to the coarser crisp-haired *Water-dog*, long well known in England, known particularly to water-fowl shooters and the fishermen of the n.e. coasts. The *Barbet* of the French is a diminutive variety, much in request as a lady's pet.

POOH, POOH! int. *pô* [originally representing the sound of spitting, as in disgust: Gr. *ptuō;* L. *spuo*, I spit]: an exclamation of contempt, dislike, or disgust.

POOJAH, n. *pô'jâh* [Skr. *pūjā*]: a religious act of worship performed by a Hindu of high caste after bathing.

POOL, **n.** *pôl* [AS. *pól:* Dut. *poel*, a puddle: Icel. *pollr*, a standing water: W. *pwll*, a pool: Gael. *poll*, mire, a bog: It. *paludo;* L. *palus*, a swamp]: a piece of standing water less than a lake; a small collection of water, or of a liquid, in a hollow.

POOL, n. *pôl* [F. *poule*, a pool for stakes at cards]: the stakes in certain games; the receptacle for them; also a game in Billiards (q.v.). POOL-SELLING, disposing of the contingent right to a share in a sum of money consisting of the wagers laid by a number of persons on the success of a horse in a race, or of a team in a game of football, etc. The share in the pool due to each successful better is proportioned to the amount wagered by him. Pool-selling falls within the legal definition of 'gaming'—viz., 'a contract between 2 or more persons by which they agree to play by certain rules at cards, dice, or other contrivance, and that one shall be the loser and the other the winner.' The laws of nearly all the states prohibit betting (and hence pool-selling), and the winner has no legal means of enforcing the payment of his winnings. In most of the states, stake-holders (and pool-sellers are stake-holders) can be obliged to refund stakes deposited with them on an illegal wager, even though they have paid the money to the winner.

POOLE, *pôl* [so called from the inlet or *pool* on which it stands]: chief seaport of Dorsetshire, England; on a wide but shallow inlet in the e. coast. It is built of red brick, is intricate and confused in plan, but is pierced by the High Street, a mile in length. Along the shore are capacious quays, well lined with shipping. The town is noted more for its trade than for its architecture. Sail-cloth and cordage are manufactured, and, together with potter's and pipe clay, provisions, and articles of clothing, are principal articles of export. Ship, and especially yacht, building is carried on. The harbor, into which fall the rivers Trent and Frome, is a beautiful estuary, and is a fine feature in the charming scenery of the vicinity. Its depth of water is 13 to 14 ft., and its navigable channels, unobstructed by rocks or sands, are safe at all times. Brownsea Island, in the middle of the pool, is 6 m. in circumference: on its extreme point stands Brownsea Castle. 1,014 vessels, of 75,987 tons, entered the port 1880. Pop. (1871) 10,079; (1881) 12,303.

POOLE, MATTHEW: learned English divine of the Puritan age: 1624–79; b. York. He was educated at Emmanuel College, Cambridge. Very little is known regarding his life. In 1662 he figured as preacher in the Church of St. Michael le Querne, in London; but was one of the 2,000 ministers whom the Act of Uniformity compelled to leave the Church of England. Subsequently he retired to Holland, and died at Amsterdam. His principal work, *Synopsis Criticorum Biblicorum* (5 vols. fol. 1669–76), is an attempt to bring together in a condensed form the opinion of 150 biblical critics of all times and countries previous to his own. It is a work showing great professional learning and very respectable talent; but later criticism and research have rendered much of it obsolete. Other works by P. are *Annotations on Scripture*, and *The Nullity of the Roman Faith.*

POOLE, *pôl,* WILLIAM FREDERICK, LL.D.: librarian: b. Salem, Mass., 1821, Dec. 24. He graduated at Yale 1849; compiled two indexes of periodical literature 1848 and 53; brought out a third and enlarged edition in co-operation with the Amer. and Brit. Library assocs. 1882; was asst. librarian of the Boston Athenæum 1851, librarian of the Boston Mercantile Library 1852–56, and of the Boston Athenæum 1856–69; organized libraries in Waterbury, Conn., St. Johnsbury, Vt., Newton and Easthampton, Mass., and the U. S. Naval Acad., 1869; organized and was librarian of the Cincinnati Public Library 1869–74, and similarly served the Chicago Public Library 1874–87; and has since been engaged as organizer and librarian of the great Newberry Library, Chicago. He has been pres. of the American Library Assoc., was vice-pres. of the International Conference of Librarians, London 1877, and has published numerous works and papers on library, historical, and miscellaneous subjects.

POOLER, n. *pôl'ėr:* an instrument used for stirring a tan-pit.

POONA, or PUNA, *pô'nâ:* capital of the dist. of P., Brit. India, in the presidency of Bombay; on the small river Moota, near its confluence with the Moola, in a treeless plain about 74 m. s.e. of Bombay. In its palmy days, when it was cap. of the Mahratta power, it is said to have contained a pop. of a quarter of a million. A large proportion of the people are Brahmans. The city is divided into seven quarters, named after the days of the week, and the principal building is a palatial structure, formerly the residence of the Peishwah. The climate is salubrious and pleasant, and P. is the headquarters of the Bombay army. In 1821, soon after P. came into British possession, a college was established for the study of Sanskrit literature, in the hope that the disaffected Brahmans (who had been all-powerful under the Peishwah) might be thus conciliated. As the modes of instruction originally adopted were entirely native, and far from efficient, the college has gradually been transformed. At present it has a staff of European professors, with native assistants, and is a highly respectable seminary for the study of English, Marathi, and Sanskrit. Only Brahmans were admissible into the college as first established; now it is open to the public generally. P. is much resorted to, particularly in the rainy season (June–Oct.), for its pleasant and salubrious climate. The fall of rain averages 22 to 25 inches annually; whereas at Bombay it is about four times as great. The range of the Ghauts (properly called the Sahyadree range), a precipitous barrier 2,000 ft. high, with peaks considerably higher, receives the full burst of the monsoon; so that Khandalla, on the top of the Ghauts, is drenched with almost perpetual rain for four months. Then the clouds pass on, relieved of their watery burden, and the rainfall e. of the Ghauts is much less. From the Ghauts, the whole country gradually slopes toward the Bay of Bengal. P. is about 1,800 ft. above sea-level. One of the most interesting objects in the neighborhood of P. is a large *bund,* or embankment, solidly built of hewn stone over the Moota-Moola river for the purpose of providing a supply of water for the military cantonment, especially the bazar or native town connected with it. It was built by the late Sir Jamsetjee Jeejeebhoy, whose charities were very great. Two forts celebrated in Maratha history are near—Singhur, about 12 m. s.e., and Poorundur, about 18 m. s. These are favorite sanatoria during the hot season (Mar.-June). At Poorundur is a sanatorium for sick soldiers. P. was formerly a great mart for jewellery and precious stones, but this trade has ceased. The native manufactures have been supplanted by introduction of European piece-goods, and the only business that prospers is that of dealers in grain and other agricultural produce. The railway has rendered P. almost a suburb of Bombay. The railway climbs the great mountain-barrier of the Ghauts from the low lands of the Konkan to the high table-land of the Deccan by the boldest engineering works: the line up the Ghauts was opened 1863.

Among many new buildings in recent years is the Government College—a Gothic building erected mainly at the expense of Sir Jamsetjee Jeejeebhoy. The Scottish mission (Presb.) began English education in P. 1831, and has continued it steadily: its schools for boys and girls, both for English and for the vernacular (Marathi), are largely attended, even by the highest castes. The girls number more than 300; and one school consists of Mussulman girls. The Mussulmans in India generally are far behind both Hindus and Parsees in their desire to educate the women; in fact, a Mussulman girls' school is rare. Pop. of P. (1871) 118,886; (1881) 129,751.

POONA-WOOD, *pô'na-wûd:* timber of the Poon trees of India (*Calophyllum inophyllum* and *C. augustifolium*). It is commonly used in the E. Indies, particularly in ship-building, for planks and spars: the latter are usually called *Poon.* The trees are natives of Penang, and of the countries eastward of the Bay of Bengal.

POOP, n. *pôp* [F. *poupe*; It. *poppa*—from L. *puppis*, the hinder part of a ship]: in large vessels, a sort of supplemental deck raised over the after-part of the upper deck, and extending to the mizzen-mast. The best cabins are beneath it. In old ships, a second and even a third poop were raised above the hinder part of the poop proper, giving the vessels that immense height at the stern shown in old drawings. The poop is gradually disappearing from ships built either for speed or war, as offering undue resistance to the wind in one case, and an undesirable mark to an enemy in the other. POOP, v. to strike a ship in the stern; to sink it; to roll over the stern, as the waves of the sea. POOP'ING, imp.: N. the shock of a heavy sea on the stern or quarter of a ship; the action of a ship running her stern against the stern of another. POOPED, pp. *pôpt.*

POOR, a. *pôr* [prov. F. *poure;* F. *pauvre;* It. *povero*—from L. *pauper*, poor, needy]: having small means; needy; of little or no use or value; paltry; mean; wanting in strength, beauty, or dignity; not fertile, as a soil; worthy of compassion; spiritless; dejected; lean; emaciated; without good qualities; wretched or miserable, in contempt: in *Scrip.*, frequently, humble or contrite. **POOR'LY**, ad. *-lĭ*, with little or no success; without adequate means: ADJ. somewhat ill; indisposed. **POOR'NESS**, n. *-nĕs*, the state or condition of being poor. **THE POOR**, indigent persons collectively; those depending on public or private charity (see below). **POOR-HOUSE**, a residence for persons receiving public charity. **POOR-LAWS**, laws regulating relief for the poor (see below). **POOR-RATES**, money raised by law for the support of the poor (see POOR—POOR-LAWS: OVERSEERS). **POOR'S-ROLL**, in Scots law, list of poor persons who are litigants, but unable to pay the fees of court, and are therefore obliged to sue *In Forma Pauperis* (q.v.). **POOR-JOHN**, the torsk or hake, a sort of fish, so called as being formerly a cheap kind of fare—but see HABERDINE. **POOR-SPIRITED**, a. mean; cowardly.—SYN. of 'poor': indigent; needy; necessitous; penurious; destitute; wanting in; lean; starved; meagre; barren; dry; sterile; trifling; paltry; mean; contemptible; unimportant; unhappy; uneasy; depressed; low; dejected; flaccid; valueless; narrow; dear.

POOR, *pôr*, DANIEL, D.D.: Christian missionary: 1789, June 27—1855, Feb. 3; b. Danvers, Mass. He graduated at Dartmouth Coll. 1811, and at Andover Theol. Seminary 1814; became pastor of a Presb. church in Newburyport 1815, but soon went as missionary to Ceylon, arriving there 1816, March, and residing at Colombo until 1823, when he took charge of the seminary at Batticotta. He went to Madura 1836, and to Jaffna 1841; organized 37 schools, and preached much in the open air. On account of ill-health, he spent the years 1848–50 in the United States, but gave many missionary addresses. Returning to Ceylon 1851, he labored at Manepy until his death by cholera. He was buried at Tillipally. His writings, besides contributions to the *Bibliotheca Sacra* and other periodicals, were tracts for distribution. He was scholarly, amiable, full of enthusiastic zeal—type of one out of many groups of Christians who have devoted themselves to similar self-denying work.

POOR, ENOCH: soldier: 1736, June 21—1780, Sep. 8; b. Hackensack, N. J. He was a merchant at Exeter, N. H., when the N. H. legislature, after the battle of Lexington, ordered a levy of troops: the command of one of the three regts. was given to P. With this regt. he served in the disastrous expedition to Canada. Appointed brig.gen., he distinguished himself at Stillwater and at Saratoga, and afterward shared the hardships of the army at Valley Forge. His bravery and skill were conspicuous in the battle of Monmouth, and he commanded a brigade in Sullivan's expedition against the Six Nations. He had just received his appointment to the command of a brigade in Lafayette's light-infantry division when he died of fever.

POOR CLARES: see MINORITES.

POORE, *pôr*, BEN PERLEY: journalist: 1820, Nov. 2—1887, May 30; b. Newburyport, Mass. He learned the printer's art while a boy, and from the age of 18 to 20 years edited a newspaper at Athens, Ga. He was an attaché of the U. S. legation at Brussels 1841, and remained in Europe till 1848, meanwhile acting as agent in collecting for the state of Mass. documents relating to American history. While abroad, P. was a correspondent of the Boston *Atlas;* after his return home, he edited the Boston *Bee*, and the Boston *Sunday Sentinel* till 1854. He then became, and continued till his death, a Washington correspondent, under the signature 'Perley.' In this work he won a national reputation. For several years he was clerk of the senate committee on printing records. In the civil war he served awhile as major, He published numerous books—among them, *Rise and Fall of Louis Philippe* (1848); *Thirty Years in the National Metropolis* (1886); and a compilation of the treaties negotiated by the U. S. govt. with various foreign countries.

POOR MEN OF LYONS: in *chh. hist.*, name given to the Waldenses, who are said to have originated at Lyons.

POOR, The—POOR-LAWS: the needy; and the laws pertaining to their support or relief. Charity, like Christianity, had its origin, or earliest development, in the East. Among the primitive nations of the world, almsgiving was inculcated as a religious observance, and is prescribed as such in some of their sacred records. Among the European nations of antiquity, we find a provision for the poor adopted as a matter of state policy. In early times, Athens could boast of having no poor; 'nor did any disgrace the nation by begging.' But war, at length, brought poverty in its train, and the Athenian people, for the welfare of the state, decreed the maintenance of those who were mutilated in battle; and, at a later period, of the children of those who fell. Plutarch mentions Peisistratos as the originator of the first decree, though others derive it from Solon. By the latter decree, the state provided for the orphans of its soldiers till their 18th year, and then sent them into the world with a new suit of armor. The bounty given to the disabled is mentioned by Lysias, Harpocratian, Aristotle, Isocrates, and others; and is variously stated at one, two, and three oboli a day, and it seems to have been increased with the increased cost of subsistence. There were also societies for relief of distress among the democratic states of Greece, called Eranos—a sort of friendly society, in which the members relieved were expected to pay back the money advanced to them, when they had raised themselves to better circumstances. But it must be remembered that these so-called democratic states were in reality slave-holding aristocracies.

Among the Romans (years of Rome 268 and 338), the Agrarian and Licinian laws were framed to prevent the extremes of riches and poverty in the state. They limited the extent of property in public land to be held by each citizen, and the Licinian laws directed that all such land, more than the allotted portion, should be taken away from the holders, and given to those who had none. The distribution of grain at reduced prices, which at length became gratuitous, was introduced by Caius Gracchus, and lasted till the fall of the Roman empire. Augustus in vain tried to suppress it. In his time, 200,000 citizens were thus fed. Cicero makes mention of this provision as in great favor with the Roman people, because it furnished them with abundant subsistence without labor; other Roman writers describe its results as disastrous both to agriculture and manners, creating a nation of mendicants, and causing the land to fall out of cultivation.

In the middle ages, the great body of the laboring classes were in a state of bondage, and looked to their feudal lords for maintenance. The obligation to provide for their slaves, or serfs, seems to have been fully recognized, so that many encountering, in a state of freedom, the miseries of want, went back to bondage as a refuge from destitution. The villeins in Saxon England were attached to the soil, and received from their lord a portion of land for support of themselves and their families. But the Church of Rome constituted herself the great receiver and dispenser of alms. The rich monasteries and abbeys distributed doles to the poor.

In most states of continental Europe, the church remains to a larger or smaller extent the public almoner, the state only stepping in to supplement the offerings of the church and voluntary charity when they become deficient. The disseverance from the church is hardly anywhere among them so complete as in England. The laws of different countries vary as to the degree of want entitling a pauper to relief, the extent to which the right to relief is matter of positive right, the conditions which give rise to a claim of relief, and the incidence of taxation. In the Netherlands, a title to relief is acquired by birth, or by having inhabited the same place uninterruptedly for six years. In Sweden, such title as the law allows is conferred by inhabitancy in the parish or town, if the applicant, being above 45 years of age, has been entered on the list of tax-payers. In Norway, the right is acquired by a residence of two years; in Denmark, of five years. By the Prussian poor-law of 1842, the duty of relief falls on the commune of which the person applying was expressly admitted a member, in which he has acquired a regular abode, which he has occupied for a year, or in which he has been living for three years after attaining full age. In Slesvig-Holstein, the right to relief in a commune is acquired by birth; also by 15 years' residence after the age of 18: the latter mode of acquiring it being competent to foreigners. In Saxony, a settlement is acquired by birth, express gift, or purchase of a house and 5 years' residence.

In Spain, the state supports several asylums for lunatics, the blind, and the deaf and dumb. It also distributes a large sum annually among the provinces for the relief of the poor—each province being bound to raise double the amount received from the state. The state also steps in for relief in great calamities, and allots a certain sum annually for assistance of unfortunate Spaniards abroad. A general directory of charitable and sanitary services superintends the parochial bodies charged with distribution of assistance to the poor.

In Austria, each commune is charged with relief of its poor. All who have legal domicile, or, being unable to prove their domicile, are resident in the commune, are entitled to relief out of the general assessment. There is no special rate, and the administration is strictly municipal. In many provinces, private charity is associated with public assistance, administered by the curé, a few chosen inhabitants, who are called 'Fathers of the Poor,' and an officer accountable to the commune. This system is called the 'Poor's Institutes;' and their funds are derived principally from private sources; but they receive a third part of the property of ecclesiastics who die intestate, and certain fines, etc. Applicants are subjected to minute inquiry as to the cause of poverty, and a weekly allowance is made on a scale according to age and necessity. The infirm poor who have no relatives to reside with are taken into hospitals established in almost every commune, where they receive, besides lodging, fire and light, clothing, medical care, and a small allowance in money to provide for their food and other wants. Children are either provided for in the homes of their parents, put into asylums, or boarded with people of probity, who receive a monthly payment, as in Scotland. The welfare of these children is superintended by the curés, the maires, and the sanitary officers of the commune. Foundlings, lunatics, the blind, deaf, and dumb, are provided for by the state. Vagrancy is punished, and parents permitting children under 14 years of age to beg are liable to 3 months' imprisonment. Able-bodied vagrants are sent to houses of correction, and kept at work. Pawnbroking is a charitable institution in Austria, under government control; and many pawnbroking establishments rest on endowments, and lend without interest: the trade is forbidden to private persons.

In France, the relief of the poor is not compulsory; as its distributors may, after making inquiry, refuse relief, except in the case of foundlings and lunatics. The minister of the interior has general superintendence of the machinery of relief, as well as the immediate administration of many large hospitals and refuges. He also assists a great number of private charities. The other ministers of state give assistance on occurrence of great calamities. The departmental funds are called on for the compulsory relief, but the commune is the main source of public assistance. Its duty is to see that no real suffering remains unrelieved, and that the nature of the relief is such as can most easily be discontinued when the necessity ceases. The commune encourages and stimulates voluntary charities, and receives gifts for benefit of the poor's funds. Except in Paris, the administration of the hospitals, and that of the relief given at the homes of the poor, are under different management, the communes only interfering to supplement the funds of the hospitals when these are insufficient. The maire is president both of the administration of the hospitals and of the body for giving out-door relief (the *bureau de bienfaisance*). During industrial calamities, the poor are sometimes employed in workshops supported by the public, and in public works. In Paris, since 1849, there has been a responsible director over all the charities of the city. He manages the outdoor relief through the medium of the committees of assistance, formerly called *bureaux de bienfaisance*, in each arrondissement. He is under the inspection of a council, composed as follows: the prefect of the Seine (president), the prefect of police, two members of the municipal council, two maires or deputy-maires, two members of the committees of assistance, one councilor of state or a master of requests, one physician and one surgeon practicing at the hospitals, one prof. of medicine, one member of the chamber of commerce, one member of the council of prud'hommes, and five members taken from other classes than those above mentioned. Begging is forbidden, and punished, wherever there are establishments for the relief of the poor.

In the Hanse Towns there was introduced, **1788, a** system of voluntary contributions aided by fixed subsidies from the government. This at length resulted in government supplying all deficiencies, which in the last few years have been 80 per cent. of the cost of the general poor-relief. In Holland, pauper colonies have been supported by government for many years. Vagrants, after short imprisonment, are sent to one of these, under a system of discipline quite as rigorous as an Irish intermediate prison. Paupers of good character are sent to maintain themselves and their families, by agricultural labor, in free colonies. The working of the system is pronounced costly and unsatisfactory.

In the United States, the care of the poor is devolved on the local authorities—those of the county or those of the town, as the laws of the various states determine. In the New England states, the relief of the poor is incumbent on the several towns; in the rest of the states, generally on the counties. The laws regulating the legal settlement of paupers, or determining the local circumscription on which their maintenance devolves, differ in different states. Thus, in Mass., a married woman follows the settlement of her husband, if he has any; if not, then her settlement at the time of marriage. Legitimate children follow the father's settlement; illegitimate children the mother's. In Mich. and N. Y., 'emancipated' minors may acquire settlement—1. If females, by marriage and living with their husbands one year; 2. If males, by marriage and living away from their fathers one year; 3. By being bound in apprenticeship and serving one year; 4. By being hired and actually serving one year on wages paid to themselves. But most of the states require merely a certain period of residence, varying in length from 5 years (Maine) to 30 days (Nebraska). The general tenor of the poor-laws of all the states accords with that of the revised code of Mass., which provides that 'any town'—in most of the states, as already said, the local circumscription for poor-relief is the county—'may erect or provide a workhouse for the employment and support of all poor and indigent persons that are maintained by or receive alms from the town; all persons who, being able to work, and not having means to maintain themselves, refuse or neglect to work; all persons who, live a dissolute vagrant life, and exercise no ordinary calling or lawful business; and all such persons as spend their time and property in public-houses, to the neglect of their proper business, or, by otherwise misspending what they earn, to the impoverishment of themselves and their families, *are likely to become chargeable to the town or the commonwealth.*' The idle and the vagrant may be committed to the workhouse, and kept at labor, as in a house of correction. There are provisions for enforcing the claims of kindred, and for immediate relief of strangers. The administration is in the hands of overseers, who have discretion as to mode of relief.—In the following states, paupers, i.e., persons in receipt of aid from the 'poor-master,' or inmates of poor-houses, are not permitted to exercise the right of suffrage: Del., Me., Mass., Mo.,

N. H. (except honorably discharged U. S. soldiers and sailors), R. I., S. C., Tex., W. Va.

In the United States, the problem of governmental dealing with any great mass of abject poverty has not been presented for solution till within recent years. The simplicity of our social organization, and a certain rustic freshness of spirit, together with our vast resources in soil and rock and forest and sea, have stimulated enterprise, multiplied the opportunities for labor, inspired ambition and hope; so that the helpless and the abject have not been numerous enough to be a recognized public burden. In recent years, the conditions have been rapidly changing; and we are beginning to confront a problem of poverty in its relations to governmental action which is to test the wisdom of our wisest leaders. It may be helpful, therefore, for us to trace the development of this question in the experience of England through 600 years.

The annals of the poor in England are neither short nor simple. Severe enactments for the repression of vagabondage and mendicity date from a very early period. In ancient Saxon times, the householder was bound to provide for the laborer, and men who had no master were, by the Folkmote, assigned to some householder; but when freedom began to prevail, this state of things naturally came to an end. No master was bound to provide for the freeman, and when he failed to provide for himself, by honest labor, he generally took to vagrant begging, often to violence. The statute of Winchester (13th Ed. I., 1285) shows the poor utterly uncared for, and the roads infested by vagrant robbers. Up to the reign of Richard II., the sole idea of English rulers was to treat pauperism as a crime, and repress it by punishment, and by the most unjust and absurd restrictions on the freedom of labor. The 23d Ed. III. forbids giving alms to vagrants, on pain of imprisonment; then also the laws of settlement had their origin in the attempt to chain the free laborer to the land: see SETTLEMENT. The 12th Richard II. (1388), c. 7, is the first statute that makes provision for the impotent poor. The statutes of Henry VII. endeavor to carry out, by severest measures, the system of repression. The 27th Henry VIII., c. 25 (1535), introduced the principle of compulsory assistance, though it was by way of voluntary alms. Each parish was ordered to receive and provide for the impotent, and set the able-bodied to work. Alms were to be collected into a general fund, and indiscriminate almsgiving was forbidden, on pain of forfeiture of ten times the value given. The sturdy beggar was treated without mercy, was to be whipped when first caught, next to have his ear cropped, and for a third offense to suffer death, as a felon and enemy to the commonwealth. This is repealed by 1st Ed. VI., c. 3 (1547), because, 'through foolish pity, it is rendered of non-effect.' Not much milder, to modern ideas, seem the substituted penalties—viz., branding, on first conviction, with a V on the shoulder, and being adjudged a slave for two years, to be claimed by any one, fed on bread and water, and caused to work by beating, etc. Running away from this tender treatment was punishable with S branded on the face, and slavery for life to the town or parish, on the roads of which the incorrigible vagrant was to work in chains, at the penalty of the town or parish. Other two acts of Edward's reign return to earlier and considerably milder measures of restraint. A little urging was then found necessary to obtain funds for maintenance of the poor. The collectors were gently to ask every man and woman at church what they would give; but if one could not be persuaded, the bishop was to send for the recusant, and use 'charitable ways and means.' At length the 5th Elizabeth, c. 3 (1563), provided that he who obstinately refused to give should be handed over to the more persuasive arguments of the justices, who were empowered to tax him at their discretion, and send him to jail for default. Ten years later, the power of compulsory assessment is given to the justices, and abiding-places are ordered to be provided for the aged and infirm. These statutes culminated in the 43d Elizabeth, c. 2 (1601), which has formed the basis of the poor-law system of England till the present time. It taxed every inhabitant of every parish for relief of the poor. It directed the justices in every county to appoint three or four substantial householders in each parish to be overseers of the poor, with the church-wardens. It ordered the relief of the impotent, and the apprenticing of children, and the providing of work for the able, by means of 'a convenient stock of flax, hemp, wood, thread, iron, and other necessary ware and stuff.' The great act of Elizabeth came but slowly into operation. Till the reign of Charles I., there were many parishes in which no rate was assessed, and which turned away their poor; but the great evils had been remedied, and there was little legislation on the subject for the next hundred years. After that time, the evils complained of were, that many had thrown themselves on the rates who ought to have been supporting themselves independently of such aid; that pauper labor was found interfering with and displacing industrial labor; that the overseers were acting with unchecked dishonesty, and justices, with unrestrained liberality, ordering the money of the industrious and prudent to be spent upon the idle and improvident. A provision in the reign of George I. (9th Geo. I., c. 7, 1723) substituted what is called indoor relief for the allowance made to the poor at their own homes, and introduced the workhouse system. All who refused to be lodged in the house were to be struck off the poor's-roll, and refused relief. A great increase in the number of workhouses took place; guardians were appointed to guard the pauper children from neglect and improper conduct, and other attempts to improve their administration made. Toward the close of the 18th c., a great relaxation took place in the treatment of the poor: the 36th Geo. III., c. 10 and 23 (1796), increased the amount and extended the application of relief: it repealed the act forbidding relief to those who refused the workhouse, and allowed relief to be given in aid of wages. Henceforth, outdoor relief (relief supplied to the poor at their abodes or outside of workhouses) became the rule under a variety of systems, of which the complaint was justly made that they turned the poor-laws into a mode of paying wages. In 1801 the amount of the rates was reckoned at £4,000,000. In 1820 it had risen to £7,330,254. In 1817 a commission of the house of commons stated their opinion, that, unless checked, the assessment would swallow up the profits of the land. Evidence brought before a commission in 1832 revealed a disastrous state of things. The independence, integrity, industry, and domestic virtue of the lower classes were in some places nearly extinct. The great source of the evil was shown to be the relief afforded to the able-bodied on their own account, and that of their families, in aid of wages. This aid at first reduced the expenditure in wages, and found favor with farmers and magistrates, who framed scales of relief in accordance with the wants of the people, so that they began to be paid for their necessities, and not for their industry, and fell into the temptation of increasing the former, and neglecting the latter. Five modes of outdoor relief were found in operation: 1. Relief without labor; 2. Allowance given, in aid of wages, according to the number of the laborer's family; 3. The Roundsmen system, the laborers being let out, by the parish, among the employers round; 4. Parish work, generally on the roads; 5. The labor-rate, the ratepayers preferring to divide among them the pauper labor, and to pay for it, however valueless, instead of raising a rate. Diminished industry ate away the very root of capital. Farmers turned off their men, or refused to employ them at fair wages, thereby causing a surplus of unemployed labor fraudulently; they then took them back from the parish at reduced wages paid out of the rates. Under the system of allowance, there were parishes in which every laborer was a pauper, paid more for idleness than he could get for labor, paid more if he took a pauper wife, and still more for every pauper child. Paupers married at 17 and 18 years of age, and claimed the allowance the day after their marriage; and from parish after parish came the reply to the queries of the commissioners: 'All our able-bodied laborers receive allowance.' No poor man in such parishes could save; if industrious and thrifty, and it was known that he had a fund of savings, 'he would be refused work till the savings were gone,' and he had come down to the pauper level. This had gone on till in many places pauperism swallowed up three-fourths of the rent. Nor was the maladministration confined to the rural districts; the evidence showed that it extended all over the country, and into the manufacturing towns, where the outdoor relief was a source of constant imposture. The administration of indoor relief also was full of abuses, from lack of classification, discipline, and employment. Better food and lodging was provided for idle paupers than working-people could procure—better, even, than could be afforded by many of the ratepayers. In 1834 the commissioners reported that they found the administration 'opposed to the letter and spirit of the law, and destructive of the welfare of the community.' The commissioners strongly laid down the principle that the condition of the pauper ought to be below the lowest condition of the independent laborer, because every penny bestowed in rendering the condition of the former more eligible than that of the latter is a bounty on indolence and vice; and recommended: 1. The cessation of outdoor relief; 2. A central authority to control the administration; 3. Unions for better management of workhouses, and classification of their inmates; 4. A complete and clear system of accounts. The bill embodying these recommendations became law 1834, Aug. 14. A rapid formation of unions took place under the new board. In the first eight months, 112 were formed out of 2,066 parishes. The pauperized districts experienced great and immediate relief, numbers of paupers going off when they found that relief involved adequate work, or the strictly disciplined workhouse; wages rose, and the expenditure was reduced, on an average, 20 per cent. At the accession of George I., 1714, the poor-rates amounted, as nearly as can be estimated, to £950,000, equal to 3*s.* 3¾*d.* per head on the pop. of 5,750,000. At the accession of George III., 1760, the pop. had increased to 7,000,000, the poor-rates to £1,250,000—an average of 3*s.* 6¾*d.:* in 1834 the pop., estimated from the last census, was 14,372,000, and the money expended in relief £6,317,255—equal to 8*s.* 9½*d.* per head. In three years the operation of the Amendment Act had reduced the expenditure one-third—viz., to £4,044,741. In 1848 the commissioners were exchanged for a public board, which became one of the govt. departments, with a president, in whom was vested the power of the commissioners, and who held office as one of the ministers of the crown. Finally, 1871, the Poor-law Board was abolished, and its powers transferred (with various other powers) to a new body, the Local Govt. Board (q.v.), which accordingly became the central authority for England and Wales in poor-law administration. The commissioners were unable to withdraw outdoor relief, which continues in England the most important item. With the aged, the sick, and orphans, the guardians deal at their discretion; but stringent rules for relief of the able-bodied are in operation under the board, whose orders have the force of laws. In rural districts, guardians are prohibited from giving relief to the able-bodied out of the house, unless under a supplemental order, in emergency. For other places, the general rule forbids relief to be given in aid of wages, and requires work to be supplied. Exceptions are made by the board on the application of the unions when necessity arises. The expenditure is strictly guarded and examined by public auditors. A district medical officer, of whom one or more are appointed for each union, attends to all cases of sickness among the poor.

As to outdoor relief and able-bodied paupers, it is provided that every able-bodied person requiring relief from any parish shall be relieved wholly in the workhouse ('indoor relief'), together with his wife and family, if any, and if not otherwise employed. But the relief may be given out of doors in cases of sudden and urgent necessity, of sickness, accident, and a few other cases. In general, relief is confined to persons actually residing in some place within the union, except in case of casual destitution, or sickness and accident. Whenever outdoor relief is given to an able-bodied person, half of it is to be in the form of articles of food or fuel. Relief is given only weekly where the pauper is not required to be received into the workhouse. No relief is to be given to able-bodied persons while they are employed for wages or hire by any person; and every able-bodied male person, if relieved out of the workhouse, shall be set to work by the guardians, and kept so employed while he continues to receive such relief. The law with regard to the relief of the poor is so far qualified, that wherever a person applies for parochial relief, if he or she has a father or grandfather, mother or grandmother, or child, who is able to maintain such pauper, then the parish officers can obtain an order from justices to compel such relative to contribute a sum toward such maintenance. So husbands or fathers of paupers are bound to contribute to such maintenance. In all cases, the pauper is relieved either in the workhouse or out of the workhouse, according to the regulations of the poor-law orders. In some cases, the guardians or overseers may employ the poor in public works; but this is seldom done, except on occasions like the Lancashire distress. See OVERSEERS: REMOVAL OF PAUPERS: SETTLEMENT.

Scotland and Ireland have been legislated for separately. Their poor-laws are similar to the English in principle and practice. The Scotch law differs from the English and Irish in allowing no relief to able-bodied adults. Claimants must be aged, infirm, or disabled. Outdoor relief is the rule. As regards the working of the Scottish poor-law, its great and acknowledged defect is the constant and costly contest respecting settlements, or right to fix claims on particular parishes. Scotland had no systematic provision for relief of the poor till 1845. Ireland had no poor-laws until 1838, when they were introduced by the 1st and 2d Vict. c. 56. Each union has a workhouse managed by a board of guardians, elected by the ratepayers. Every destitute person has an absolute right to relief, which is administered almost entirely in the workhouse. See LOCAL GOVERNMENT.

A comparison of the statistics of poor-law administration for England and Wales 1872 and 1882 is interesting and encouraging. In 1872 the pop. of England and Wales was 23,000,000. There were 977,200 paupers, of whom 150,930 were able-bodied adults. The total cost of poor-relief was £8,007,403, while the ratable value of property assessed was £107,398,242. In 1882 the corresponding figures were: pop. 26,055,000; paupers, 788,289, of whom 102,208 were able-bodied adults; cost, £8,232,472; property assessed, £139,636,307. Accordingly, the pop. increased more than 13 per cent., while the number of paupers decreased 19 per cent., and the able-bodied paupers 32 per cent. The cost increased by 3 per cent., while the value of property increased more than 30 per cent. In 1872 the paupers were 1 in 154—one twenty-fourth of the total pop.; in 1882 they were 1 in 254—less than one thirty-third. The average impost 1882 was 6*s.* 3¾*d.* per head of pop. (see VAGRANTS).

In Scotland, 1882, the pop. was 3,773,000; the paupers were 99,341 (2·6 per cent. of pop.); the expenditure, £912,936, being at the rate of 4*s.* 10*d.* per head of pop. In Ireland, the pop. 1882 was 5,150,000; there were 112,829 paupers; and a cost of £951,112. For the United Kingdom 1871–75 the figures were: estimated annual average pop. of the United Kingdom, 32,129,865; annual average of paupers, 1,109,608, or 3·4 per cent., distributed thus:

	Population.	Paupers.	Percentage.
England and Wales,	23,355,535	920,030	3·9
Scotland,	3,430,930	112,132	3·25
Ireland,	5,343,400	77,446	1·4

The total expenditure for the same period was £47.532,756, or an annual average charge of 5*s.* 0¾*d.* per head of pop.—in England and Wales, 6*s.* 7¾*d.*; Scotland, 5*s.* 1¼*d.*; Ireland, 3*s.* 5*d.* At the beginning of 1880 there were 837,940 paupers in England and Wales; at the beginning of 1881 there were 803,126. In Scotland 1881 there were 34,412 paupers; in Ireland, 549,874.

Compare Böckh's *Public Economy of Athens*, transl. by Sir G. C. Lewis; Sir George Nicholl's *History of the Poor-laws;* Emmingham's *Poor Relief in Different Parts of Europe*, revised by E. B. Eastwick (1873); *Reports of the Poor-law Commission, Poor-law Board,* and *Local Government Board;* Fowle, *The Poor Law* (1882).

POOR PRIESTS: in *chh. hist.*, name given to or assumed by the Lollard clergy of the 14th and 15th c., who wandered about the country holding what would now be called 'revival meetings,' or 'missions,' without the sanction of the bishop of the diocese.

POORT, n. *pôrt* [Dut. *poort*, a gate, a port-hole]: in *s. Africa*, an opening; a gate or pass.

POP, v. *pŏp* [imitative of the sound produced by a small explosion of air]: to make a small, smart, quick sound; to put out or in slyly or unexpectedly; to enter in or go out suddenly or unexpectedly; to offer or present with a sudden quick motion: N. a smart, quick sound or report: AD. suddenly; unexpectedly. **POP'PING**, imp. **POPPED**, pp. *pŏpt.* **TO POP OFF**, to disappear suddenly. **POPGUN**, a child's toy which drives out a pellet with a pop. **TO POP THE QUESTION**, familiarly applied to a man's asking a woman if she will marry him. **POP-SHOP**, *familiarly*, a pawnbroker's office.

POPAYAN, *pō-pâ-yân′* or *pō-pī-ân′:* city of the United States of Colombia, S. America; in a fertile plain, 6,000 ft. above sea-level, on the Cauca, lat. 2° 27′ n. It contains a cathedral and a number of conventual edifices. It was founded 1537, the first city built by Europeans in this region. Under the Spaniards, it rose to importance; but an earthquake 1834, and the continued unsettled state of the country, have reduced it. It is still of some consequence as a mart for agricultural produce. A great commercial road, about 1,000 m. in length, leads from P. to Truxillo, in Peru. Pop. 20,000.

POPE, n. *pōp* [L. and It. *papa*, a father: Gr. *pappas:* F. *pape*]: the Bishop of Rome, head of the Rom. Cath. Chh., and formerly temporal as well as spiritual sovereign of that part of Italy called the States of the Church (see below): title also of all priests in the Greek and Russo-Greek Church. **Pope′dom**, n. *-dŭm*. the office, dignity, or jurisdiction of the pope. **Popery**, n. *pō′pėr-ĭ*, term of disparagement for the Rom. Cath. religion, or for its priestcraft. **Po′pish**, a. *-pĭsh*, of or relating to the pope, or to the Rom. Cath. Chh. and its adherents; used offensively, or at least in disparagement of the most exaggerated doctrines and practices which Protestants attribute to Rom. Catholics in distinction from the tenets attributed to the more moderate of that church. **Po′pishly**, ad. *-lĭ*.

POPE, *pōp:* title of the Bishop of Rome, Supreme Pontiff of the Rom. Cath. Church. The present article explains briefly the titles of the P., the manner of his election, the nature and functions of his office, and the authority ascribed to him by the different schools of Rom. Catholics; and the chronological succession of the bishops of Rome from the earliest ages to this day.

1. The name 'Papa' (q.v.)—Latin equivalent of pope—was used originally of all bishops. The first known writer who applies it to the Roman bishop as his specific title is Ennodius of Pavia, latter part of the 5th c., who thus addresses Pope Symmachus. It is used also by Cassiodorus; and from his time gradually came to be reserved to this application, but it did not lose entirely its old and general use for many centuries later. In the modern ecclesiastical vocabulary, the pope is called the 'Sovereign Pontiff,' the 'Vicar of Christ,' the 'Head of the Church,' the 'Holy Father,' etc. He subscribes himself, since St. Gregory the Great, *Servus Servorum Dei* (Servant of the Servants of God); and he is addressed as Your Holiness, Your Beatitude, etc.

2. The office of pope is elective. The electoral body, according to present usage, is the College of Cardinals. Primitively, the pope, like other bishops, was elected by the clergy and people, though the rights of both were not the same. Some elections having been attended with violence, the electoral body was by degrees limited. At length, by a decree of Pope Nicholas II. 1059, the right of election was vested in the cardinals (see Cardinal). Provision was thus made for representation of all the ancient electoral bodies; the cardinal bishops repre-

senting the bishops of the Roman synod, the cardinal priests the parish clergy, and the cardinal deacons the heads of the popular electoral districts (*regiones*) of the city. Preparatory to an election, the cardinals are shut up in what is called 'the conclave,' all communication with the outer world being interrupted until the election shall have been made. A simple majority of voices does not suffice—two-thirds of the cardinals must vote for the same candidate. There are four modes of election—'scrutiny,' 'access,' 'compromise,' and 'inspiration.' Twice a day during the conclave, each cardinal deposits, in a chalice placed on the altar, the name of his candidate. If the requisite number of votes are not found for any one, the papers are at once burned; and the smoke of the burning votes is a signal to the expectant crowd outside that no election has taken place. This is called the 'scrutiny.' If votes be added to those already given for one candidate, so as to make the required two-thirds, it is called 'access.' If the cardinals of two parties unite, it is called 'compromise.' If, by a public movement, a particular candidate be carried as by acclamation, the election is said to be by 'inspiration:' the recent pope, Pius IX., was elected in this way. The greater Rom. Cath. powers—France, Austria, and Spain—were formerly understood to have the privilege of placing a veto on the election of *one* candidate; but this right was vague and undefined, and had no formal foundation in law. It is required by long usage, as a condition of election, that the candidate shall be an Italian. After election the P. is enthroned, enters upon possession of his see, and finally is solemnly crowned. The ceremonial of consecration is very splendid and deeply impressive. One of the ceremonies—that of burning a bunch of flax before him, with the words: 'Holy Father, thus passeth away the glory of the world!'—has often been cited for its highly symbolical character, as well as for its dramatic effect. Cardinals, in order to vote, must be present at the conclave—no voting by proxy is permitted. Some of these conditions are practically set aside by the cessation of the status of the P. as an Italian temporal sovereign; and it is likely that the forms of election may be modified by special legislation. It has even been alleged that the present P. has prepared a special bull regulating the time, place, and order of the election of his successor.

3. The general nature of the office of the P. may be inferred from his reputed character as successor of St. Peter, and vicegerent of Christ on earth, whence follow all the powers necessary for practical government of the church. Hence he is held (1) to possess over the entire church, and each of its parts, a supreme authority, not indeed arbitrary, but regulated by the law of God and by the canons. He has power (2) to examine and decide authoritatively all controversies; (3) to convoke councils; (4) to revise and confirm their decrees; (5) to issue general decrees, whether on discipline and morals, or on doctrine; (6) he is the centre of communion, separation from which involves the forfeiture of the communion of the whole

church; (7) he has *ultimate* authority to appoint bishops in all parts of the church, and however this right may be exercised in the first instance, as by the sovereign, by the clergy, or by a synod of bishops, it rests with him to confirm episcopal elections, no matter how made, and to grant 'canonical institution;' (8) he can also deprive bishops, and set others in their place; and can even, in cases of great emergency, suppress bishoprics, and change their limits according to existing requirements; (9) he has authority to judge of the doctrine taught in particular books, or by particular individuals, and to pronounce authoritatively as to its conformity with the Catholic faith, or the contrary. This privilege formed the subject of the great controversy with the Jansenists as to what are called 'Dogmatic Facts.'

4. All Rom. Catholics are agreed that the P., as primate, possesses, by Divine law and in virtue of his office, full governing authority over the entire church. Of the exercise of such power, they find traces in history from the earliest times. Rom. Cath. historians trace the history of the pope's primacy in St. Clement's Letters to the Church of Corinth; in the action taken by Victor in the Paschal controversy, and by Stephen and Cornelius in the controversy on rebaptizing heretics; in the deposition of Marcian, Bp. of Arles, at the instance of Cyprian, by Pope Stephen; in the leading part taken by the popes in the condemnation of Donatus and of the Pelagian heresy; and perhaps more than all, in the appeals made from various parts of the church by persons excommunicated by their own bishops, and the rehearing at Rome of such causes, and the confirmation or reversal of the sentence according to the result of the trial. These several facts, however, though to Rom. Catholics they appear evidences of the papal supremacy, are explained by Prot. writers in a sense which does not suppose any permanent supremacy on the part of the Roman see, and which they hold to be reconcilable with the full independence of national churches; and it is admitted by Rom. Catholics themselves, while they contend that the instances to which they appeal imply a real exercise of primacy from the beginning, that the details of that primacy have undergone a gradual and extensive development in the progress of the church. Till the date of the late Vatican Council, great differences of opinion existed between the Gallican and the Ultramontane schools as to the extent and nature of the papal authority, whether in decrees of doctrine or in the government of the church. As to the former, all agreed that the judgment of the P., in concert with the body of bishops, was infallible; but they differed as to papal decrees on doctrine issued by the P. alone, *ex cathedrâ*, and addressed to the whole church, though both agreed as to the duty of respectful obedience on the part of all, until the general sense of the church should have been ascertained; and should no reclamation on the part of the church take place, the decree of the P. was held to be, in the opinion of both contending schools, as infallible;

and the doctrine propounded therein was allowed to be recognized as a point of faith sanctioned with the ultimatum of infallibility: see GALLICAN CHURCH. But the Ultramontanes held that a doctrinal decree issued *ex cathedrâ* is infallible *ipso facto,* and independently of any reference to the church dispersed. As to the government of the church, the Ultramontanes held the P. supreme, and thus superior to general councils, and independent of their decrees. The Gallicans, on the contrary, held that a general council is superior to the P., and has power to bind him by its decrees. Further, the Ultramontanes held that the P. is the source of all jurisdiction in the church, and that the bishops derive their powers *through him* from Christ. The Gallicans regarded the episcopal power as received directly from Christ by virtue of the episcopal office (see EPISCOPAL SYSTEM: BISHOP). This difference of opinion led to many controversies of detail as to the respective rights and powers of the P. and the bishop in the several dioceses. On the question of infallibility and on all its practical consequences, the Ultramontane view, though not in its furthest extreme, received the sanction of the late Vatican Council.

5. The chronology of the papacy in the 1st c. is very obscure. The enumerations in ancient writers are imperfect, and they differ as to the exact order of succession. The two most ancient catalogues, those of Irenæus and Augustine, differ in more than one particular. The chief difficulty regards Linus and Cletus. The former is believed to have been vicegerent of Peter during the interval between his first coming to Rome and his final residence there. He would therefore have been at once the contemporary of Peter and his successor (though but for a very brief period). The difficulty as to Cletus arises from the doubt whether he be the same person with Anacletus. Subjoined is a catalogue of the Popes, or of those entitled Bishops of Rome, compiled from the most careful modern authorities, and arranged according to centuries:

FIRST CENTURY.	A.D.
The Apostle Peter	41–67
Linus.	68
Cletus, or Anacletus	uncertain date
Clement I	uncertain date
SECOND CENTURY.	
Evaristus	about 100
Alexander I.	about 109
Sixtus I., Roman	119
Telesphorus, Greek	127
Hyginus, Athenian	138
Pius I., native of Aquileia	142
Anicetus, Syrian	151
Soter, Greek	161
Eleutherus, Greek	170
Victor I., African	185
Zephyrinus	197
THIRD CENTURY.	
Callixtus I., Roman	217
Urban I., Roman	222
Pontianus, Roman	230
Antherus, Greek	235

POPE.

	A.D.
Fabianus, probably Roman	236
Cornelius, Roman	252
(Novatianus, first antipope.)	
Lucius I., Roman	253
Stephen I., Roman	253
Sixtus II., Roman	257
Dionysius, Greek	259
Felix I., Roman	270
Eutychianus, uncertain	275
Caius, Roman	283
Marcellinus, Roman	296

FOURTH CENTURY.

Marcellus I., Roman	308
(Marcellinus having died in 304 or 305.)	
Eusebius, Greek	310
Melchiades, African	310
Sylvester I., Roman	314
Marcus, Roman	336
Julius I., Roman	337
Liberius, Roman	352
(Felix II., antipope.)	
Damasus I., Spaniard	366
(Ursicinus, antipope.)	
Siricius, Roman	384
Anastasius I., Roman	398

FIFTH CENTURY.

Innocent I., native of Albano	401
Zosimus, Greek	417
Boniface I., Roman	418
Celestinus I., Roman	422
Sixtus III., Roman	432
Leo I., Roman, called 'the Great'	440
Hilarius, native of Sardinia	461
Simplicius, native of Tibur	467
Felix III., Roman	483
Gelasius I., Roman	492
Anastasius II., Roman	496
Symmachus, native of Sardinia	498

SIXTH CENTURY.

Hormisdas, native of Frusino	514
John I., Tuscan	523
Felix IV., native of Beneventum	526
Boniface II., Roman	530
John II., Roman	532
Agapetus I., Roman	535
Sylverius, native of Campania	536
Vigilius, Roman	540
Pelagius I., Roman	555
John III., Roman	560
Benedict I., Roman	574
Pelagius II., Roman	578
Gregory I., Roman, styled 'the Great'	590

SEVENTH CENTURY.

Sabinianus, native of Tuscany	604
Boniface III., Roman	607
Boniface IV., native of Abruzzi	608
Deusdedit or Deodatus I., Roman	615
Boniface V., Neapolitan	619
Honorius I., native of Capua	625
Severinus, Roman	638
John IV., native of Dalmatia	640
Theodorus I., Greek	641
Martin I., native of Tudertum	649
Eugenius I., Roman	654
Vitalianus, native of Signia	657
Deusdedit II., Roman	672
Domnus I., Roman	676
Agathon, Sicilian	678

	A.D.
Leo II., Sicilian	682
Benedict II., Roman	684
John V., native of Syria	685
Conon, native of Thrace	686
Sergius I., native of Palermo	687

EIGHTH CENTURY.

John VI., native of Greece	701
John VII., native of Greece	705
Sisinnius, native of Syria	708
Constantine, Syrian	708
Gregory II., Roman	715
Gregory III., Syrian	731
Zacharias, Greek	741
Stephen II	753
Stephen III., Roman	753
Paul I., Roman	757
Stephen IV., Sicilian	763
Adrian I., Roman	772
Leo III., Roman	795

NINTH CENTURY.

Stephen V., Roman	816
Paschal I., Roman	817
Eugenius II., Roman	824
Valentinus, Roman	827
Gregory IV., Roman	827
Sergius II., Roman	843
Leo IV., Roman	847
In this interval is placed the fabulous pope Joan (q.v.).	
Benedict III., Roman	855
Nicholas I., Roman	858
Adrian II., Roman	867
John VIII., Roman	872
Martin II. (called also Marinus I.)	882
Adrian III., Roman	884
Stephen VI., Roman	885
Formosus, Bishop of Porto	891
(Sergius and Boniface VI., antipopes.)	
Stephen VII., Roman	896
Romanus, Tuscan	897
Theodorus II., Roman	897
John IX., native of Tibur	897

TENTH CENTURY.

Benedict IV., Roman	900
Leo V., native of Ardea	903
(Christopher, antipope.)	
Sergius III	904
Anastasius III., Roman	911
Lando, native of Sabina	913
John X., Roman	914
Leo VI., Roman	928
Stephen VIII., Roman	929
John XI	931
Leo VII., Roman	936
Stephen IX., Roman	939
Martin III. (called by some Marinus II.)	943
Agapetus II.	946
John XII., Ottaviano Conti	956
He was the first who changed his name on his elevation.	
(Leo VIII., antipope)	963
Benedict V., Roman	964
John XIII., Roman	965
Benedict VI	972
Domnus II., Roman	973
Benedict VII. (Conti), Roman	974
John XIV	983
(Boniface VII., Franco, antipope.)	
John XV., Roman	985
John XVI., Roman	986
Gregory V., German	996
Sylvester II., Gerbert, native of Auvergne	999

POPE.

ELEVENTH CENTURY.

	A.D.
John XVII. (May—October)	1003
John XVIII., Roman	1003
Sergius IV., Roman	1009
Benedict VIII., native of Tusculum	1012
John XIX., Roman (in some catalogues reckoned XX.; the diversity arising from a disputed election)	1024
Benedict IX.	1033
(Sylvester, antipope.)	
Gregory VI., Roman	1044
Clement II., native of Saxony	1047
Damasus II. (Poppo)	1048
Leo IX., Bishop of Toul	1049
Victor II., Bishop of Eichstadt	1055
Stephen X., Frederick, Abbot of Monte Casino	1057
Benedict X., by some styled antipope, abdicted	1058
Nicholas II., native of Burgundy	1059
Alexander II., native of Milan	1061
Gregory VII., Hildebrand, native of Tuscany	1073
(Guibert, antipope, assumed the name of Clement III.)	
Victor III., native of Beneventum	1086
Urban II., native of France	1088
Paschal II., native of Tuscany	1099
(Albert and Theodoric, antipopes.)	

TWELFTH CENTURY.

Gelasius II., native of Caieta	1118
Callixtus II., native of Burgundy	1119
Honorius II., Cardinal Lamberto, Bishop of Ostia	1124
Innocent II., Roman	1130
(Anacletus, antipope.)	
Celestinus II., Tuscan	1143
Lucius II., native of Bologna	1144
Eugenius III., native of Pisa	1145
Anastasius IV., Roman	1153
Adrian IV., Nicholas Breakspeare, Englishman	1154
Alexander III., Cardinal Orlando Bandinelli, native of Siena	1159
(Victor, Paschal, and Callixtus, antipopes.)	
Lucius III., Cardinal Ubaldo of Lucca	1181
Urban III., Uberto Crivelli, Archbishop of Milan	1185
Gregory VIII., native of Beneventum	1187
Clement III., Paul, Bishop of Præneste	1188
Celestinus III., Cardinal Hyacinthus, Roman	1191
Innocent III., Cardinal Lotharius, native of Signia	1198

THIRTEENTH CENTURY.

Honorius III., Cardinal Savelli, native of Rome	1216
Gregory IX., Cardinal Hugo, native of Anagni	1227
Celestinus IV., native of Milan	1241
Innocent IV., Cardinal Sinibaldo Fieschi, native of Genoa	1242
Alexander IV., Cardinal Rinaldo Conti, native of Anagni	1254
Urban IV., James, Patriarch of Jerusalem, Frenchman	1261
Clement IV., Guy, native of St. Gilles, in Languedoc	1265
Gregory X., Tebaldo Visconti, native of Piacenza	1272
Innocent V., Cardinal Peter, native of Tarentaise	1276
Adrian V., Ottobono Fieschi, native of Genoa	1276
John XXI., native of Lisbon	1276
Nicholas III., Cardinal Orsini, native of Rome	1277
Martin IV., Cardinal Simon de Brie, Frenchman	1281
Honorius IV., Cardinal James Savelli, native of Rome	1285
Nicholas IV., Cardinal Jerome, native of Ascoli	1288
Celestinus V., Pietro da Morrone of Abruzzi	1294
Boniface VIII., Cardinal Benedetto Gaetani, native of Anagni	1295

FOURTEENTH CENTURY.

Benedict XI., Cardinal Nicholas, native of Treviso	1303
Clement V., Bertrand of Bordeaux, removed the papal see to Avignon	1305
John XXII., James, native of Cahors, in France	1316
(Nicholas, antipope.)	
Benedict XII., James Fournier, Frenchman	1334
Clement VI., Peter Roger, native of Limoges, in France	1342

POPE.

	A.D.
Innocent VI., Stephen Aubert, native of Limoges	1352
Urban V., William Grimoard, Frenchman	1362
Gregory XI., Peter Roger, Frenchman, restored the papal see to Rome	1370
Urban VI., Bartolomeo Prignano, Neapolitan	1378
(From 1378 to 1410 occurs the great Western Schism, during which, in conflict with the line of popes inserted in the catalogue, is found a rival line residing at Avignon—Clement VII., 1378-1394; Benedict XIII., 1394-1410. The Council of Pisa, 1410, deposed both rival popes; but Benedict XIII. remained in schism till his death in 1424.)	
Boniface IX., Peter Tomacelli of Naples	1389

FIFTEENTH CENTURY.

Innocent VII., Cosmo Migliorati, native of Sulmona	1404
Gregory XII., Angelo Corrari, native of Venice	1406
Alexander V., Peter Philargius, native of Candia	1409
John XXIII., Cardinal Cossa, deposed by the Council of Constance	1410
Martin V., Otho Colonna, Roman	1417
Eugenius IV., Gabriel Condulmero, Venetian	1431
(Felix, antipope.)	
Nicholas V., Cardinal Thomas, native of Sarzana	1447
Callixtus III., Alfonso Borgia, Spaniard	1455
Pius II., Æneas Sylvius Piccolomini, native of Siena	1458
Paul II., Peter Barbo, native of Venice	1464
Sixtus IV., Francis della Rovere, Genoese	1471
Innocent VIII., Gian Battista Cibo, Genoese	1485
Alexander VI., Rodrigo Lenzoli Borgia, Spaniard	1492

SIXTEENTH CENTURY.

Pius III., Francis Todeschini Piccolomini	1503
Julius II., Julian della Rovere, Genoese	1503
Leo X., Giovanni de' Medici, son of Lorenzo the Magnificent	1513
Adrian VI., native of Utrecht	1522
Clement VII., Giulio de' Medici, nephew of Lorenzo	1523
Paul III., Alessandro Farnese, native of Rome	1534
Julius III., Giovan Maria Giocci, native of Rome	1550
Marcellus II., Cardinal Cervini, native of Montepulciano	1555
Paul IV., Gianpietro Caraffa, Neapolitan	1555
Pius IV., Giovanni Angelo Medichini, native of Milan	1559
Pius V., Michele Ghislieri, native of Alessandria	1566
Gregory XIII., Hugo Buoncompagni, native of Bologna	1572
Sixtus V., Felice Peretti of Montalto, native of the March of Ancona	1585
Urban VII., Gian Battista Castagna, Genoese	1590
Gregory XIV., Nicola Sfrondati, native of Milan	1590
Innocent IX., Gian Antonio Facchinetti, native of Bologna	1591
Clement VIII., Ippolito Aldobrandini, native of Fano	1592

SEVENTEENTH CENTURY.

Leo XI., Alessandro de' Medici, native of Florence	1605
Paul V., Camillo Borghese, native of Rome	1605
Gregory XV., Alessandro Ludovici, native of Bologna	1621
Urban VIII., Maffeo Barberini, Florentine	1623
Innocent X., Gian Battista Pamfili, native of Rome	1644
Alexander VII., Fabio Chigi, native of Siena	1655
Clement IX., Giulio Rospigliosi, native of Pistoia	1667
Clement X., Emilio Altieri, native of Rome	1670
Innocent XI., Benedetto Odescalchi, native of Como	1676
Alexander VIII., Pietro Ottoboni, native of Venice	1689
Innocent XII., Antonio Pignatelli, native of Naples	1691

EIGHTEENTH CENTURY.

Clement XI., Gian Francesco Albani, native of Urbino	1700
Innocent XIII., Michael Angelo Conti, native of Rome	1721
Benedict XIII., Vincenzo Maria Orsini, native of Rome	1724
Clement XII., Lorenzo Corsini, native of Florence	1730
Benedict XIV., Prospero Lambertini, native of Bologna	1740
Clement XIII., Carlo Rezzonico, native of Venice	1758
Clement XIV., Gian Vincenzo Ganganelli, born near Rimini	1769
Pius VI., Angelo Braschi, native of Cesena	1775

NINETEENTH CENTURY.	A.D.
Pius VII., Gregorio Barnaba Chiaramonti, native of Cesena	1800
Leo XII., Annibale della Genga, native of Romagna	1823
Pius VIII., Cardinal Castiglioni, native of Congoli	1829
Gregory XVI., Mauro Cappellari, native of Belluno	1831
Pius IX., Giovanni Maria Mastai-Ferretti, native of Sinigaglia	1864
Leo XIII., Gioacchimo Pecci, native of Carpineto	1878

Protestants generally object to the list of popes given by Rom. Catholics, that there is no conclusive evidence of the apostle Peter's ever having even been in Rome; though most of them admit the probability that he was there, and suffered martyrdom there. But they deny that there is any evidence whatever of his having exercised the office of bishop, in the diocesan or prelatical sense, either there or anywhere else. They call in question many other names and dates in the earlier part of the list, not so much disputing the existence of the persons named, as their exercise of the office of bishop in Rome, and still more their right to be considered bishops *of* Rome. According to Protestants in general, the papacy grew by a gradual assumption of power out of an ordinary bishopric, through the advantage of metropolitan position and influence, and was afterward supported by the fable—as they deem it—of the see of St. Peter.—See ROMAN CATHOLIC CHURCH: VATICAN, COUNCIL OF THE: EPISCOPACY: BISHOP: PRESBYTERIANISM: CONGREGATIONALISM.

POPE (fish): see RUFFE.

POPE, ALEXANDER: English poet: 1688, May 22—1744, May 30; b. London. His parents were Rom. Catholics, and to this faith the poet also nominally adhered, thus debarring himself from public office and employment. His father, a linen-merchant, saved a moderate competency, and received some accession of fortune by his marriage with Edith Turner, his second wife, and the poet's mother, a lady of a good Yorkshire family. He then withdrew from business, and settled on a small estate at Binfield in Windsor Forest: he died at Chiswick 1717. Soon after his death his son Alexander took a long lease of a house and five acres of land at Twickenham, on the banks of the Thames, whither he retired with his widowed mother, to whom he was tenderly attached, and where he resided till his death, cultivating his little domain with taste and skill, and embellishing it with a grotto, temple, wilderness, and other adjuncts poetical and picturesque. In this famous villa, P.—the most popular and successful poet of his time—was visited by Frederick, Prince of Wales, and by the most celebrated wits, statesmen, and beauties of the day. P.'s early years were spent at Binfield, within the range of the Royal Forest. He received some education at little Rom. Cath. schools, but was his own instructor after his 12th year. He never was a profound or accurate scholar, but he read the Latin poets with ease and delight, and acquired some Greek, French, and Italian. He was a poet almost from infancy; he 'lisped in numbers,' and when a mere youth, surpassed all his contemporaries in metrical harmony and correctness. His pastorals and some translations appeared in Tonson's *Miscellany*, 1709; but were written three or four years earlier. These were followed by the *Essay on Criticism*, 1711; *Rape of the Lock* (when completed, the most graceful, airy, and imaginative of his works), 1712–14; *Windsor Forest*, 1713; *Temple of Fame*, 1715. In a collection of his works 1717, he included the *Epistle of Eloisa*, and *Elegy on an Unfortunate Lady*, two poems inimitable for pathetic beauty and finished melodious versification. 1715–26, P. was engaged chiefly on his translations of the *Iliad* and *Odyssey*, which, though wanting in true Homeric simplicity, naturalness, and grandeur, are splendid poems. They brought to the fortunate and popular translator about £8,000. He next set forth an edition of Shakespeare which was unworthy of his reputation. 1728–9, he published his greatest satire—the *Dunciad*, an attack on all poetasters and pretended wits, and on all other persons against whom the sensitive poet had conceived any enmity. In 1737 he gave the world a volume of his *Literary Correspondence*, containing some pleasant gossip and observations, with choice passages of description; but it appears that the correspondence was manufactured for publication, not composed of actual letters addressed to the parties whose names are given, and the collection was introduced to the public by means of an elaborate stratagem on the part of the scheming poet. 1731–39 he issued a series of poetical essays, moral and philosophical, with satires and imitations of Horace, all admirable for sense, wit, spirit, and brilliance. Of these delightful productions, the most celebrated is the *Essay on Man*, to which Bolingbroke is believed to have contributed the spurious philosophy and false sentiment; but its merit consists in detached passages, descriptions, and pictures. A fourth book to the *Dunciad*, containing many beautiful and striking lines, and a general revision of his works, closed the poet's literary cares and toils: he died 1744, and was buried in the church at Twickenham. P. was of very diminutive stature, and deformed from his birth. His physical infirmity, susceptible temperament, and incessant study, rendered his life 'one long disease.' He was, as his friend, Lord Chesterfield, said, 'the most irritable of all the *genus irritabile vatum*, offended with trifles, and never forgetting or forgiving them.' His literary stratagems, disguises, assertions, denials, and (we must add) misrepresentations, would fill volumes. Yet P., when no disturbing jealousy, vanity, or rivalry intervened, was generous and affectionate, and he had a manly, independent spirit. As a poet, he was deficient in originality and creative power, and thus was inferior to his prototype, Dryden; but as a literary artist, and brilliant declaimer, satirist, and moralizer in verse, he is still unrivalled. He is the English Horace. Of the many lives, that by Carruthers is one of the best (1857); see also that by Leslie Stephen (1880).

POPE, John: 1799, Dec. 17—1876, Jan. 14; b. Sandwich, Mass.: naval officer. He was appointed midshipman from Maine and was promoted lieut., commander, and captain. As lieut. he served in the Mediterranean, W. India, and Brazil squadrons. He commanded the brig *Dolphin* on the African coast, and the *Vandalia* in the E. Indies, and was in charge of the Boston and Portsmouth navy-yards successively 1850–60. In 1861 he commanded the steam-sloop *Richmond* of the Gulf squadron, but was retired in Dec. of that year.

After his retirement he was prize commissioner and light-house inspector at Boston. Of his 45 years of naval service, 27 were spent at sea, the remainder on shore duty. He died at Dorchester, Mass.

POPE, John: soldier; b. Louisville, Ky., 1822, March 16. He graduated at West Point 1842, and was assigned to the engineer corps. He served in Fla. 1842–44. In the Mexican war he won the brevets of 1st lieut. and capt.; headed an exploring expedition in Minn. 1849; was engaged in topographical engineering work in N. Mex. 1851–53; and had charge of the survey of the route for the Pacific r.r., and of other surveys in Texas, 1853–56. At the outbreak of the civil war he was capt., and was appointed brig.gen. of volunteers 1861, with command of s.w. and central Mo.; there he broke the Confederate strength under Gen. Price. He commanded the land forces in the expedition against New Madrid and Island No. 10, and for his skill and gallantry received the rank of maj.-gen. of volunteers, with assignment to command of the Army of the Mississippi. After the fall of Corinth he pursued the retreating enemy to Baldwin, Miss. P. was then appointed brig.gen. in the regular army, and called east to take command of the army of Virginia. His command met reverses; P. had to retreat before a superior force of the enemy and fell back within the fortifications of Washington. At his own request he was relieved of the command of the army of Virginia, and assigned to the dept. of the northwest. P. was commissioned maj.gen in the regular army 1882, and was in command of the dept. of the Pacific at his retirement from the service, 1886.

POPE JOAN: fanciful name for a game at cards.

POPERINGHE, *po-pĕr-ăng'*: old commercial town of Belgium, province of W. Flanders, four m. from the French frontier. The town has manufactures of lace, linens, and woolen cloths. Pop. 11,000.

POPE'S EYE: fanciful name for the fatty gland in the thick of the thigh of a sheep or an ox; a delicate morsel of food.

POPHAM, *pŏp'am*, **George**: colonist: about 1550–1608, Feb. 5; b. Somersetshire, England; bro. of Sir John P., lord chief-justice of the king's bench. He and Sir Ferdinando Gorges were patentees of a large tract of land in the present state of Maine, and P., with 100 men and two ships—one of which he commanded, the other commanded by Raleigh Gilbert, nephew of Sir Walter Raleigh—sailed from Plymouth, England, 1607, May 31. They landed at the mouth of the Sagadahoc, now Kennebec, 1607, Aug. 15, and at once began building a store-house and fort. The latter they named Fort George. This was the first attempt at English settlement in New England. The vessels returned home Dec. 5, leaving a colony of 45 persons, of which P. was president and Gilbert admiral; but P. lived only until Feb. 5 of the next year; and the colonists, discouraged at the severity of the climate, soon afterward returned to England.

POPINJAY, n. *pŏp'ĭn-jā* [It. *pappagallo;* Sp. *papagayo;* OF. *papegay*, a parrot: F. *papegai, papegaut; lit.*, the talking-cock—from Bav. *papeln*, to babble, to chatter; *pappel*, a parrot, and F. *gau;* It. *gallo;* L. *gallus*, a cock]: a gay trifling fop; a prating coxcomb; a parrot; a mark, like a parrot, erected on a pole to be shot at. *Note.*—With *popinjay* Skeat compares the Lowland Scotch *bubbly-jock,* a turkey-cock—*literally*, a babble-jack.

POPINJAY, *pŏp'ĭn-jā:* a name of the Green Woodpecker (*Picus viridis*), bird common in most of the wooded districts of England and Scotland: see WOODPECKER.

POPISH PLOT, *pōp' ĭsh plŏt:* imaginary plot, on the part of the Rom. Catholics in England during the reign of Charles II., the object of which was believed to be a general massacre of the Protestants: see OATES, TITUS.

POPLAR, n. *pŏp'lėr* [Ger. *pappel;* L. *populus;* F, *peuplier*, the poplar], (*Populus*): genus of trees, forming, with willows, the whole of the nat. order *Salicaceæ* or *Salicineæ* (by some regarded as a sub-order of *Amentaceæ*). and having diœcious flowers arranged in catkins, both male and female flowers with oblique cup-shaped perianth. The seeds have silky hairs, as in willows, and are readily wafted about by the wind. The species are numerous, natives chiefly of the temperate and cold regions of the n. hemisphere. They are large trees of rapid growth, with soft wood; and broad, heart-shaped, ovate, triangular, or lozenge-shaped, deciduous leaves, on rather long stalks. Many of them are very beautiful trees. The catkins appear long before the leaves, and proceed from distinct lateral buds. Few of the poplars are of much value for their timber, which is generally white, soft, and light; but from their rapid growth, they are useful as yielding firewood, and they are planted often as ornamental trees, producing an immediate effect of embellishment in a bare situation more readily than almost any other kind of tree. Besides the species known by the name Aspen (q.v.), or Tremulous Poplar, the following seem most worthy of notice. The WHITE P., or ABELE, often called in N. Amer. the SILVER LEAF P. (*P. alba*), native of s. Europe, a tree of 80 ft. or upward; with fine spreading head; and roundish, heart-shaped, lobed, and toothed leaves, which are smooth, shining, and dark-green above, downy and silvery-white beneath. The wood is used by cabinet-makers, turners, and toy-makers. It is little liable to swell or shrink, which adapts it for various purposes. The tree loves low situations and clay soils.—The GRAY P. (P. *canescens*) of central and s. Europe, is very similar to the White P., but of more vigorous growth, a large spreading tree; the leaves similar to those of the White P., but not so dark-green above or so white beneath. It is not of so rapid growth as the White P.; and its wood is harder and better. The tree generally begins to rot in the heart when 40 or 50 years old. Like most of the other poplars, it fills the ground around it with suckers.—The BLACK P. (*P. nigra*), native of most parts of Europe, and formerly supposed to be indigenous in N. Amer., is 50–80 ft. high, with ample spreading head, viscous leaf-buds, and deltoid or unequally quadrangular, perfectly smooth leaves. The wood is used for the same purposes as that of the White and Gray Poplars. The 'cotton' from the seeds has been used in France and Germany for making cloth hats and paper; but not profitably.—The LOMBARDY P. (*P. fastigiata* or *dilatata*) is perhaps a mere variety of the Black P., with erect instead of spreading branches. It appears to have been introduced into Europe from the East. It is very common in the Punjab and in Persia, and now also in Lombardy and other parts of Italy. It attains a height of 100, or even 150 ft., and is remarkable for erect form, contracted head, and very rapid growth. It is often planted as an ornamental tree, though not so generally as in the end of the 18th c., when it was thought preferable for ornamental purposes to every other tree. It is common in the streets and squares of towns in parts of Europe, and is seen in many smaller towns in the middle and e. United States; and is particularly adapted to situations where a long horizontal line of any kind fatigues the eye, or as seen starting up from a mass of lower wood or shrubbery, but

Black Poplar (*P. nigra*).

has a besom-like appearance when planted in unsuitable situations. The wood is of almost no value. It is propagated generally by layers.—The DOWNY P. (*P. heterophylla*), of swamps, from New Eng. to Ill. and s., has the leaf-lobes so over lapping as to conceal the end of the stalk; the leaves are woolly only when young.—The BALSAM P., or TACAMAHAC (*P. balsamifera*), a common ornamental tree in Britain, is a native of N. America and of Siberia, and has whitish ovate-oblong leaves, which in spring are of delicate yellow tint, and have agreeable fragrance. The leaf-buds are viscid. The erect fastigiate manner of growth approaches that of the Lombardy Poplar. The resinous exudation of the buds (*Tacamahac*) is said to be diuretic and antispasmodic; and an ointment made from the buds is used for tumors, wounds, and burns. The resinous exudation of the buds of other species, as the Black P., possesses similar properties. A variety (*candicans*) of the Balsam P. is known as the *Balm of Gilead*, with leaves broader and more or less heart-shaped.—The COTTON-WOOD (*P. monilifera*) of N. America, particularly abundant on the upper parts of the Mississippi and Missouri, is valued for little except fire-wood when felled; as a tall tree it nobly relieves the flatness of prairie scenery; and it is only the green-catkined (pistillate) trees that give off the troublesome cottony down—not the staminate trees with smaller, red catkins. Another species is the ANGLED COTTON-WOOD, with the branch-bark 'winged.' In size of leaf, no other species equals *P. heterophylla*, native of the southern states, whose leaves are often six inches long.

Lombardy Poplar (*P. fastigiata*).

POPLIN, n. *pŏp'lĭn* [F. *popeline:* of uncertain origin]: a cloth made of silk and worsted, of many varieties. In the 15th c. a fabric was woven in Avignon, France, called *papeline,* made of silk, and much esteemed. An attempt to imitate it was introduced into England, and the name was corrupted to *poplin,* which has since been adopted in other countries. In 1775 the manufacture was introduced into Ireland by French Prot. refugees, and from that time Irish poplins have been famous. What the exact nature of the original *popelines* was, is not certainly known; but the best modern poplins consist of a warp of silk and a weft of worsted, which gives substance combined with great softness and elasticity to the material. It has a corded structure, like rep. Cotton, and even flax yarns, are substituted for silk, wholly or partially, in making cheap goods, which are far inferior in beauty to the true poplins.

POPLITEAL, a. *pŏp'lĭ-tē'ăl,* or POPLIT'IC, a. *-lĭt'ĭk* [L. *poples* or *poplĭtem,* the ham of the knee]: in *anat.*, pertaining to the ham or backpart of the knee-joint.

POPOCATEPETL, *pō-pō-kât-ā-pā'tl* [Aztec, *popoca,* to smoke, and *tepetl,* a mountain]; or in Spanish, *Volcan Grande de Mexico,* Grand Volcano of Mexico: mountain about 45 m. s.e. of the city of Mexico. It rises in the form of a cone 17,523 ft. above sea-level; regarded as one of the three highest mountains in N. America, (see ST. ELIAS, MT.); and is composed chiefly of andesite, with much porphyritic obsidian. Forests girdle its lower parts; but at an elevation of 13,000 ft. all vegetation ceases. The snow limit is at about 15,000 ft. The summit presents a vast crater 5,000 ft. across, with sheer depth of 2,000 ft. About the period of the Spanish conquest it was very active, but no eruption has been recorded since 1540. It still smokes, however. Cortes, conqueror of Mexico, attempted to reach its summit, but was prevented by the masses of snow that covered it. This feat was achieved first by Francisco Mantaño, one of Cortes's followers, who not only climbed to the top of the mountain, but had himself let down its crater, by means of ropes, about 450 ft. In 1827 it was again scaled by the brothers Glennie, who determined its altitude barometrically, and since then this laborious exploit has been several times performed, and even by ladies.

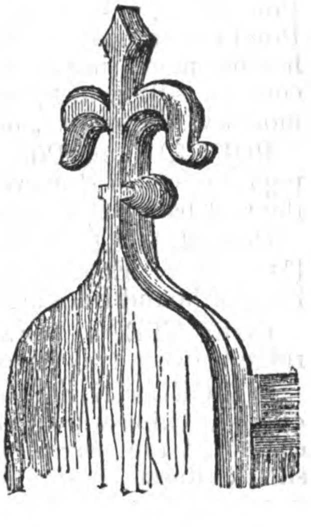
POPPET, n. *pŏp'pĕt* [another spelling of *puppet*]: a familiar term of endearment.

POPPETS, n. plu. *pŏp'pĕts* [a probable corruption of *props*]: pieces of timber placed perpendicularly to support a ship in the launching.

POPPLE, n. *pŏp'l* [W. *popple*]: in *Scot.*, corn campion or cockle; *Lychnis* (*Agrostemma*) *Githāgo*, ord. *Caryophyllācĕæ.*

POPPY, n. *pŏp'pĭ* [F. *pavot*, a poppy—from L. *papāver*, a poppy], (*Papāver*): genus of plants of nat. order *Papaveraceæ*, having a calyx of two (or rarely three) sepals, which very soon fall off; a corolla of four (rarely six) petals; numerous stamens seated on a receptacle; the stigma crowning the germen, without a style, and in the form of 4–20 rays; the capsule opening by pores under the persistent stigma, imperfectly divided into cells by partitions as numerous as the rays of the stigma, but which do not reach the centre, the seeds extremely numerous. There are numerous species of P., mostly natives of Europe and Asia, some found even in far n. regions, but most of them in warmer temperate parts. They are rather large herbaceous plants, annual or perennial, mostly sprinkled with bristly hairs. They have a white milky juice; disagreeable narcotic odor, particularly when bruised; pinnatifid or bipinnatifid leaves, more rarely jagged or toothed leaves: and large showy flowers, which readily become double by cultivation. The capsules are curious from the manner in which they fling out their seeds when the plant is shaken by the wind; each capsule being somewhat like a round or oval pepper-box, with holes, however, not in the top, where rain might enter through them, but under the rim. By far the most important species is that known as the Opium P. (*P. sŏmniferum*), called also the White P., and the Oil Poppy: see Opium. But the same species is important for the bland fixed oil of the seeds, and is much cultivated as an oil-plant. *P.-oil* is as sweet as olive oil, and used for similar purposes. It is exported in considerable quantities from India. The P. is extensively cultivated for it also in France, Belgium, and Germany. The use and manufacture of this oil were for a long time, during the 18th c., strictly prohibited in France, from a mistaken notion that it must partake of the narcotic properties of the milky juice of the plant. The seed, however, contains no opium or any narcotic principle, and was well known to the ancients as a pleasant article of food, fit to be eaten by itself or with bread. The oil expressed from it is perfectly wholesome, and is much used in France and elsewhere for food: fully one-half of the oil used for cooking and otherwise for alimentary purposes in France, is of this kind. The seeds yield about 40 per cent. of oil, and the oil-cake is useful for manure or for feeding cattle. The oil is sometimes used by painters and by soap-boilers; but it is not good for burning. In the cultivation of the P. for oil, the seed is often sown in autumn where the severity of winter-frosts is not feared; in more n. parts, it is sown in spring, and sometimes the seed is scattered on the snow with which the ground is covered. Being very small, it needs little or no harrowing. Early sowing is favorable to the size of the plant, and to abundance of produce. Hoeing and thinning are advantageous. An open but rich soil is best for the P.; and a sheltered situation is necessary, as in exposed situations much of the seed is scattered by the wind. The P. does not exhaust the land so much as colza, rape, and some other oil-plants. Har vesting ought to begin when one-fourth of the capsules of each plant are open. It is accomplished by pulling the plants in such a manner as not to shake the seed out of the capsules, and tying them in sheaves, which are placed together in an erect or slightly sloping position, till the ripening of the capsules is completed, when the seed is taken out by shaking the capsules into a tub or on a cloth, great care being used to prevent any earth from the roots from being mixed with them. Some farmers in Flanders sow P. in alternate rows with carrots. The variety of P. chiefly cultivated as an oil plant has flowers of dull reddish color, large oblong capsules, and brownish seeds; but the white-flowered variety, with globular capsules and white seeds also is used.—The ORIENTAL P. (*P. orientale*), native of Armenia and the Caucasus, a perennial species, is often planted in gardens for its very large, fiery-red flowers. Its unripe capsules have an acrid, almost burning taste; but are eaten by the Turks, and opium is extracted from them.—Several species are local, rare in some places, and troublesome weeds in cornfields in other places apparently quite similar in climate. Among them is the CORN P. or COMMON RED P. (*P. Rhœas*), with bright red flowers, and deeply pinnatifid leaves. The petals are mucilaginous and slightly bitter; they have slight narcotic odor: and a syrup made of them is used sometimes as an anodyne in catarrhs and children's complaints; but they are more valued for the rich red color which they yield. A variety with double flowers is cultivated in flower-gardens, under the name *Carnation Poppy*. Among the ancients, the P. was sacred to Ceres.

The N. American species of P. are of other genera.—The PRICKLY OR MEXICAN P. (*Argemone Mexicana*), with yellow flowers, rarely white, has spread from the far south.—The CELANDINE P. (*Stylophorum diphyllum*), has deep yellow flowers and bristly pods; it is found in woods, Penn. to Wis. and south. —The HORN P. (*Glaucium luteum*), with yellow flowers and juice, is from Europe.—The BLOOD-ROOT belongs to the P. family.



Poppy-head.

POP'PY-HEAD, in Architecture: carved ornament, used as a finial on top of bench-ends, etc. In early examples, it is a simple fleur-de-lis, but in late Gothic, this and other woodwork become very elaborately carved.

POPPY-OIL: one of the three fixed oils, used in painting.

POPULACE, n. *pŏp'ū-lās* [F. *populace*, the populace—from It. *populazzo*—from L. *pop'ŭlus*, the people]: the common people; the multitude; the mob. POP'ULAR, a. *-lėr* [F. *populaire*—from L. *populāris*, popular]: pertaining to the common people or to the public; suitable or pleasing to the public in general; plain; easily comprehended. POP'ULARLY, ad. *-lĭ*. POPULARITY, n. *pŏp'ū-lăr'ĭ-tĭ*, the quality or state of being in favor with the public; the state of being beloved by the people. POPULARIZE, v. *pŏp'ū-lėr-īz*, to render pleasing and suitable to the people generally. POP'ULARIZING, imp. POP'ULARIZED, pp. *-īzd*. POPULATE, v. *pŏp'ū-lāt*, to furnish or settle with inhabitants; to people. POP'ULATING, imp. POP'ULATED, pp. *-lā-tĕd*. POP'ULATOR, n. *-tėr*, one who populates. POP'ULA'TION, n. *-lā'shŭn* [F.—L.]: the act of peopling; the state of a country with reference to the number of inhabitants; inhabitants of any particular place, district, or country; the whole number of inhabitants. Population, scientifically studied, has reference to those general laws that govern the increase or decrease of the human race, and to the checks which modify them. The practical object of the investigation is to regulate the operation of the laws so as to promote the welfare of society. For an attempt in this direction, see MALTHUS. The varying rate of increase in different countries makes it a subject which requires to be investigated under different heads. See VITAL STATISTICS. POP'ULOUS, a. *-lŭs*, thickly peopled; numerously inhabited. POP'ULOUSLY, ad. *-lĭ*. POP'ULOUSNESS, n. *-nĕs*, the state of having many inhabitants as compared to the extent of country.—SYN. of 'populace': mob; crowd; people; commonalty; the vulgar; multitude; rabble.

POPULIN, or POPULINE, n. *pŏp'ū-lĭn* [L. *popŭlus*, the poplar (see also POPLAR)]: an alkaline substance found in the root-bark of the aspen, one of the poplar species.

PORBEAGLE, n. *pŏr'bē-gl*, or PROBEAGLE, *prō'bē-gl* [Dut. *pole;* Eng. *poll*, a head, and Eng. *beagle*, a small kind of hound tracking by scent]: a species of shark.

PORCATE, a. *pŏr'kāt*, or POR'CATED, a. [L. *porca*, a ridge between two furrows]: ridged; formed in ridges.

PORCELAIN, n. *pawrs'lān* [F. *porcelaine*—from It. *porcellana*, china-ware, so called from its resembling the enamel of the *porcellana*, known as the tiger or Venus's shell]: finest species of earthenware, white and semi-transparent, originally imported from China and Japan; china-ware (see POTTERY): ADJ. belonging to or resembling porcelain. PORCELLANEOUS, a. *pawr'sĕl-lā'nĕ-ŭs*, of or resembling porcelain. PORCELAINIZED, a. *pawrs'lān-īzd*, in *geol.*, baked like potter's clay—applied to those clay-shales and stratified rocks that have been converted by subterranean heat into a substance resembling in texture porcelain or kiln-baked clay. POR'CELANITE, or POR'CELLANITE, n. *-sĕ-lā-nīt*, a term applied to a clay or shale which has been converted by heat into a porcelain-like mass, varying in colors and degrees of hardness. PORCELAIN-CLAY, a clay, generally composed of alumina and silica, used in making porcelain. *Note.*—The It. *porcellana* is evidently derived from *porcella*, a sow-pig, as the curved shape of the shell's upper surface resembles the raised back of a pig.

PORCH, n. *pōrch* [F. *porche*, a porch—from L. *portĭcus*, a colonnade or porch—from *porta*, a gate: It. *portico*]: in *arch.*, a roof supported on pillars before a doorway; a covered passage before the principal doorway of a church; when so large as to be fitted up as a small chapel, it is termed a *galilee:* a portico, or covered or inclosed approach to a doorway of any building. In Elizabethan and mediæval architecture, the P. was very common in domestic architecture; and in churches, it was almost universal. In France many splendid porches or portals remain; they are among the most beautiful specimens of mediæval art. In England wooden porches, of picturesque structure, are common in the parish churches of the middle ages.

Porch of Aldham, Essex (1350).
(From Parker's *Glossary of Architecture.*)

PORCINE, a. *pŏr'sīn* [L. *porcus*, a pig]: pertaining to swine or pigs.

PORCUPINE, n. *pŏr'kū-pīn* [It. *porco spinoso*, the pig with spines, a hedgehog, a porcupine: L. *porcus*, a pig; *spinosus*, thorny—from *spina*, a thorn], (*Hystrix*): genus of mammalia, of order *Rodentia*, family *Hystricidæ*. This family is remarkably characterized by an armature of spines, which, like those of the hedgehogs, are, as to structure, merely thick and strong hairs. The *Hystricidæ* are plantigrade; the fore-feet have four toes and a rudimentary thumb, the hind-feet have five toes. Their general aspect is heavy and pig-like, and they have a grunting voice. The muzzle is broad and blunt; the ears short and rounded; the incisors smooth and large, two above and two below; the molars eight above and eight below. The American porcupines have mostly but four toes, and live usually on trees. The CANADA P. (*Erethizon dorsatus*) has soft, dark fur beneath the longer hoary hair, with white dark-pointed spines, which are barbed and sometimes produce fatal inflammation in the animals that venture to attack; but has no power to shoot the quills, as is sometimes said: the wounds are usually inflicted by a stroke of the tail. It lives on the bark of trees, which are killed by its gnawing. It nests in hollow trees, and hibernates in cold weather. The Indians color the quills, using them to embroider deerskin clothing, etc., and they are fond of the flesh of the P.—The YELLOW-HAIRED P. (*E. epizanthus*) is smaller, and occurs from the Missouri river to the Pacific.—The P. with prehensile tails are still more arboreal, and are found in Mexico and S. Amer.—The Old World P. live in burrows, have five toes, and longer, more narrow skulls, besides dental and other differences from the American.—The COMMON P. (*H. cristata*) is a native of s. Europe, of many parts of Asia, and of most of Africa. It is one of the largest of rodents, being two to three ft. in length, besides the tail, which is about six inches long. The hinder part of the head and the neck are furnished with a crest of long bristles, capable of being elevated or depressed at pleasure. The muzzle and limbs are covered with very short hair; the back and sides with spines, longest on the middle of the back, where they are almost of the thickness of a goose-quill, and more than 12 inches long. The spines are supported by a slender pedicle, and they terminate in a sharp point; they are longitudinally striated, and are ringed with black and white, which gives a general gray color to the animal. Their ordinary position is flat, with the points directed backward; but when the animal is excited, they are erected, and it rolls itself up like the hedgehog, with spines pointing in every direction. The tail spines or quills are of singular structure, being open thin-sided tubes, about two inches long, supported upon slender flexible pedicles; and they make a sound by rattling together when the tail is shaken. The P. is said to rattle the spines of its body also when irritated, but this is doubtful. The statement has been made, that it throws off its spines or quills by a voluntary act, launching them

Porcupine (*Hystrix cristata*).

at its adversaries; but it has no such power, though it is possible that quills ready to come off may be detached in moments of excitement, and fly to a small distance with sufficient force to be annoying to a pursuer. The P.'s armor, however, is strictly defensive, and it seeks to turn its back, and thus the points of its spines to an enemy. It is a solitary and nocturnal animal. It burrows in the ground, and in winter becomes torpid. It feeds on roots, bark, fruits, and other vegetable substances, sometimes committing great depredations in gardens. The spines or quills of the P. are used for various purposes, and have a certain commercial value. It is chiefly sought on account of them; though its flesh is eaten, and was brought to the market of ancient Rome.—A larger species of P. (*H. leucurus*), with the quills of the tail quite white, is found in India, and other species inhabit different parts of the East. The Atherure, or Tufted-tailed P. (*Atherura fasciculata*), native of India and Malacca, differs from the true porcupines in the head and muzzle not being convex, in having the quills flattened like blades of grass, and those of the tail gathered into a tuft at the end of it.

POR'CUPINE ANT'-EATER: see Echidna.

PORDENONE, *pōr-dā-nō'nā:* town of Italy, province of Udine, 40 m. n.n.e. of Venice, on a plain near the base of the Alps. Pop. 5,000.

PORE, n. *pōr* [F. *pore*, a pore—from L. *porus;* Gr. *poros*, a channel or passage—from Gr. *peraō*, I pass]: one of the very minute openings or interstices in the skin through which the perspiration or sweat passes to the surface; any minute opening or cell on the surface of an organized body. Porous, a. *pōr'ŭs*, full of pores; light and spongy; opposed to *dense*. Por'ously, ad. *-lĭ*. Por'ousness, n. *-nĕs*, or Porosity, n. *pōr-ŏs'ĭ-tĭ*, the state of having small interstices or holes; the opposite of *density*. Porite, n. *pōr'īt*, a species of coral having the surface covered with shallow and small cells; a fossil coral.

PORE, v. *pōr* [Sw. *pora*, to work slowly: comp. Gael. *purr*, to push]: to look on steadily and minutely; to look close and long, as on a book or writing. Por'ing, imp. Pored, pp. *pōrd*.

POREBLIND, a. *pōr'blīnd:* OE. for Purblind.

PORGY, *pawr'gĭ:* name of various fish of the *Sparidæ* or Sheepshead family. About New York it is applied, as also Paugy (both a corruption of the Indian name *Mishcuppauog*) to *Stenotomus versicolor*, formerly confounded by some with *Sparus pagrus* of S. C., Fla., and s. Europe. In New Eng. it is known as Scup and Scuppaug. It is much prized as a food-fish, and the best weigh 2½–3 lbs., but sometimes 4 or more. There is a southern species, *S. Gardeni*, and the name P. is there applied to other fish of the same family, such as *Lagodon rhomboides*, and several species of *Calamus*, and even to the Porcupine Fish. On the coast of Or., the name P., altered to Pogy and Porgee, is given to a fish of the Surf-fish family (*Embiotocidæ*) which resembles somewhat the P. of the East.

PORIFERA, n. *pōr-ĭf'ĕr-ă* [L. *porus*, a pore; *fero*, I bear]: a class of animals, including the sponges, perforated in every part with minute orifices; the term *Spongiæ* is preferred by many naturalists (see SPONGE: ZOOLOGY). PORIF'ERAN, n. *-ăn*, one of the Porifera or group of animals comprising the sponges.

PORIFORM, a. *pōr'ĭ-fawrm* [L. *porus*, a pore; *forma*, shape]: resembling a pore or small puncture.

PORIME, n. *pōr'īm* [Gr. *porimos*, practicable—from *poros*, a ford, a passage]: in *geom.*, a theorem or proposition so easy of demonstration as to be almost self-evident.

PORISM, n. *pō'rĭzm* [Gr. *porisma*, a corollary—from *porizō*, I provide]: a kind of geometric proposition in high favor among ancient Greek mathematicians, but of which the notices that have come down to us are so few and meagre, that mathematicians have widely differed, and even yet are not agreed about what a P. really was. The ancient works in which porisms are mentioned are *Collectiones Mathematicæ* of Pappus, and *Commentarii* of Proclus. Dr. Robert Simson (q.v.) was the first to restore the probably original form of porisms. As defined by Playfair, 'a porism is a proposition affirming the possibility of finding such conditions as will render a certain problem indeterminate, or capable of innumerable solutions.' This definition seems to have had most general acceptance, at least with English mathematicians; though Chasles declared (1860) that he considered it unfounded. Good examples of porisms are given in Simson's *Opera Reliqua;* Playfair's, 'Origin and Investigation of Porisms' (*Trans. of Roy. Soc. of Edin.*, III.); Wallace's paper, 'Some Geometrical Porisms, etc.' (*Edin. Trans.*, III. etc.). PORIS'TIC, a. *-rĭs'tĭk*, or PORIS'TICAL, a. *-tĭ-kăl*, pertaining to or depending on a porism.

PORITE: see under PORE 1.

PORK, n. *pōrk* [F. *porc*, a hog, swine's flesh: It. *porco;* L. *porcus*, a pig]: the flesh of pigs or swine, either fresh or salted. PORKER, n. *pōrk'ėr*, a young hog; a pig. PORK'LING, n. *-lĭng*, a young pig. PORKMAN, a butcher who deals in pork.—*Pork* forms a very large portion of the animal food of many nations, though it is not the most nutritive, as will be seen by the following comparison of the four principal kinds of flesh-food:

	Mineral Matter.	Gelatine.	Fibrine and Albumen.	Fat.	Water.
Veal,	4·5	7·5	9·0	16·5	62·5
Beef,	5·0	7·0	8·0	30·0	50·0
Mutton,	3·5	7·0	5·5	40·0	44·0
Pork,	1·5	5·5	4·5	50·0	38·0

It has qualities, however, which fit it for man's use in certain special conditions; its fatness makes it a very heat-giving food for cold and temperate climates; while it surpasses all other kinds of animal food in the ease with which it may be preserved by salting and drying. Hence the trade in P. is considerable in all countries where it is used, especially in the United States and Great Britain, where vast quantities are cured for supply of ships and the army, and for domestic use. The quantity of pork exported from the United States to Britain is prodigious. America has long furnished the chief supply of mess and common pork not only for the British army, navy, and mercantile marine, but also for those of most European nations. Next to America, Ireland, especially the neighborhood of Cork, furnishes the largest supply of cured pork; and London and Wiltshire, and other parts of England, furnish vast quantities of bacon and hams for general consumption.

During the year ending 1889, June 30, the exports of P. products from the United States were: bacon, 357,377,399 lbs., value $29,872,231; hams, 42,847,247 lbs., $4,779,616; fresh meat, 22,794 lbs., $1,662; pickled parts, 64,110,845 lbs., $4,733,415; and lard, 318,242,990 lbs., $27,329,173—total weight 782,601,275 lbs., value $66,716,097. The principal customers were: England, 288,679,781 lbs. of bacon ($24,408,549), 25,193,019 lbs. of hams ($2,690,650), 13,673,012 lbs. of pickled meat ($1,015,384), and 106,593,771 lbs. of lard ($9,341,254); Quebec, Ontario, Manitoba, and the N. W. Terr., 28,556,591 lbs. of bacon ($2,132,621), 1,908,868 lbs. of hams ($204,417), 16,389,233 lbs of pickled meat ($1,164,630), and 12,903,391 lbs. of lard ($1,078,941); Belgium, 17,461,504 lbs. of bacon ($1,383,880), 548,946 lbs. of hams ($57,916), and 29,428,995 lbs. of lard ($2,549,779); Scotland, 11,116,675 lbs. of bacon ($978,584), 9,673,787 lbs. of hams ($1,092,144), 1,239,075 lbs. of pickled meat ($95,170), and 9,552,394 lbs. of lard ($829,924); and Cuba, 3,319,956 lbs. of bacon ($278,842), 2,185,389 lbs. of hams ($295,148), 713,200 lbs of pickled meat ($54,943), and 30,096,838 lbs. of lard ($2,541,038). France took but little bacon, hams, and pickled meat, but imported 29,326,634 lbs. of lard ($2,528,749); Denmark took only bacon (208,250 lbs.) and lard (11,256,296 lbs.); and the next large customers were Brazil, Sweden and Norway, Venezuela, Porto Rico, Peru, U. S. of Colombia, Italy, the Netherlands, and Mexico.—An agitation against American P. products, because of the alleged prevalence of trichinæ, sprang up 1878; and by 1885 Italy, Hungary, Germany, France, Austria, Greece, Turkey, and a few minor countries had prohibited partially or wholly the importation of American P. products, and attempts to secure similar prohibition in England, Belgium, and Switzerland had failed. Events 1890 indicated the possibility of an early repeal of prohibitory legislation in France and Germany.

POROSITY [see Pore]: state of having small interstices. The term expresses the experimental fact that no kind of matter completely fills the space which it occupies; in other words, that all bodies are full of minute cavities or interstices, such as are illustrated on a large scale by a sponge. On the atomic theory, it is obvious that this must be the case, if the atoms of matter are spherical, or, indeed, if they have any form save one or two special ones, such as cubes or rhombic dodecahedrons. It is commonly asserted that all bodies must be porous, because they are compressible; but this is an assumption, since we have no reason to believe that matter is not *per se* compressible, independently of the existence of interstices. The Florentine academicians, in their attempts to compress water, proved the porosity of silver, by flattening a sphere of that metal, filled with water, and soldered. The water escaped through the pores of the silver, and stood in fine drops on its surface. The porosity of liquids is easily shown by mixing alcohol and water. The bulk of the mixture is considerably less than the sum of the bulks of the components, showing that these must in part have entered each other's pores. This property of matter is of great importance in natural phenomena, as it brings the molecular forces of capillarity into play: raising the sap in vegetables, allowing rain to sink into the ground, etc.

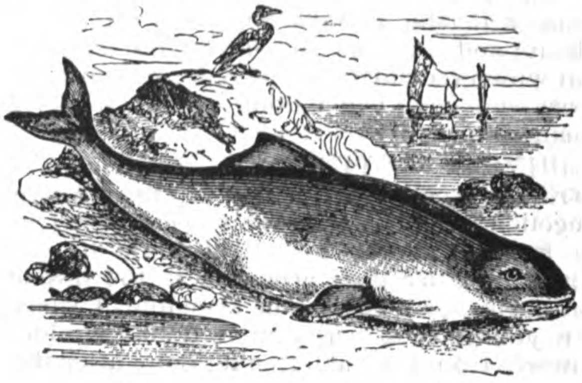
POROUS, POROUSLY, POROUSNESS: see under Pore 1.

PORPHYRIUS, *por-fĭr'ĭ-ŭs:* one of that series of ancient philosophers to whom is due the reformation of the Greek philosophy known as Neo-Platonism: 233—about 305; b. prob. at Batanea in Syria (the Bashan of Scripture). His original name was Malchus, Greek form of the Syro-Phœnician *Melech*, or king. The name by which he is known in history, *Porphyrius*, 'one clad in purple,' is but a Greek epithet intended as a sort of paraphrase of his name. He is said by Socrates the historian, and by St. Augustine, to have been originally a Christian; but this seems improbable, though it is certain that in his youth he was a hearer of Origen, or at least held some intercourse with him at Cæsarea in Palestine. What is more certain is, that he passed at a later time to Athens, where he studied rhetoric under Longinus. At Rome, whither he repaired soon after 260, he entered on his historic career. Here he became a scholar of the Neo-Platonist Plotinus (q.v.), with whom, as well as with another member of the same school, Amelius, P. entered into an animated controversy; but eventually adopted so fully the opinions of Plotinus, that he became himself, if not the leader of the school, at least the most trusted of the disciples of its master. After six years in Rome, he went to Sicily, where, according to St. Jerome, he wrote his treatise in 15 books against the Christians, now known only from the replies which it elicited, having been burned by order of Emperor Theodosius. From Sicily, he went to Carthage, and afterward to Athens; but eventually, Plotinus having died soon after P. left Rome, he returned to that city, where he continued to teach, as it seems, until his death. For a view of P.'s position in the history of the Neo-Platonic school, see NEO-PLATONISTS. P. was a very voluminous writer. Of his works, the titles of more than 60 are preserved, 43 of which are entirely lost. His *Life of Pythagoras;* his work *On Abstinence from Animal Food;* his *Commentary on Aristotle's Categories*, with the *Introduction;* and *On the Harmonies* of Ptolemy; and the book *Ad Marcellam*, addressed to his wife, are preserved entire. The rest are known chiefly by fragments: no complete edition of his works has been published.

PORPHYROGENITUS, a. n. *pŏr'fĭr-ō-jĕn'ĭ-tŭs* [Gr. *porphu'rĕŏs*, purple—from *porphŭra*, purple dye; L. *genĭtus*, begotten]: born in or to the imperial purple; applied by the Romans of the Eastern Empire to sons of the emperors born after their accession to the throne. POR'PHYROGEN'ITISM, n. *-ĭ-tĭzm*, the principle of succession by which a younger son was preferred to the elder or first-born, merely from the fact of being born after the father's accession to the throne.

PORPHYRY, n. *pŏr'fĭ-rĭ* [Gr. *porphŭritēs;* L. *porphyrītēs*, a purple-colored precious stone—from Gr. *porphŭra*, purple dye: F. *porphyre*, porphyry]: term originally applied to a reddish igneous rock found in upper Egypt, used in sculpture, and known now as Rosso antico. It is composed, according to Delesse, of a red felspathic base, in which are scattered rose-colored crystals of the felspar called oligoclase, with some plates of blackish hornblende, and grains of oxidized iron ore. The term does not now, however, denote any particular rock, but it is applied to any rock which, like the Rosso antico, has a homogeneous earthy or compact base, through which are scattered distinct crystals of one or more minerals of contemporary origin with the base. Thus, gray volcanic trachyte often abounds in crystals of glassy felspar, forming a trachytic porphyry; or crystals of felspar, quartz, or calcareous spar, scattered through a base of greenstone, form a greenstone porphyry similarly pitchstone porphyry, basaltic porphyry, claystone porphyry, etc. PORPHYRITIC, a. *pŏr'fĭ-rĭt'ĭk*, having the aspect or texture of porphyry. POR'PHYRA'CEOUS, a. *-rā'shŭs*, pertaining to porphyry. POR'PHYRIZE, v. *-rīz*, to cause to resemble porphyry. POR'PHYRIZING, imp. POR'PHYRIZED pp. *-rīzd.*

PORPOISE, n. *pŏr'pŭs*, or PORPESSE, n. *pŏr'pĕs* [O. It. *pesce-porco;* F. *porc poisson*, the hog-fish: mid. L. *porpecia*, a porpoise—from L. *porcus*, a hog; *piscis*, a fish], (*Phocœna*): genus of Cetacea, of family *Delphinidœ*, having a form similar to the dolphins, but the muzzle short, uniformly convex, and without a beak; a dorsal fin; the teeth very numerous, simple, and equal. The COMMON P. (*P. communis*) abounds on the w. coasts of Ireland and of Scotland; and is found on all the coasts of Europe n. of the Mediterranean, on the coasts of N. America, and in the arctic regions. It is one of the smallest of the Cetacea, its length sometimes not exceeding four ft., though individmals occur six or even eight feet in length. The body is spindle-shaped; its greatest diameter is near the dorsal fin. The skin is perfectly smooth, and destitute of hair. There are 40 to 50 teeth in each jaw, not conical, as in most of the Cetacea, but compressed. The eye is rather small, and the pupil in the form of a V. The opening of the ear is very minute, like a hole made with a pin. The blow-hole is crescent-shaped, with the horns of the crescent directed forward, and is exactly above the eyes.



Porpoise (*Phocœna communis*).

The P. is gregarious, and large numbers are often seen together, sometimes swimming in file, when their backs, appearing above the surface of the water, are apt to suggest the idea of a great sea-serpent; sometimes gamboling, either in fine weather, or when a storm is approaching, or even in the midst of a storm. The P. feeds on fish, which its teeth are admirably adapted to catch, and herds of porpoises pursue the vast shoals of herring, mackerel, etc., into bays and estuaries. The P. sometimes ascends rivers, apparently in pursuit of salmon, as far as the water is brackish, and is frequently itself caught on such occasions. It is an object of pursuit for its skin, its oil, and its flesh. The skin is nearly an inch thick, but is planed down until it becomes translucent, and is made into excellent leather, used for covering carriages and other purposes. Under the skin is a layer of fat, about an inch in depth, which yields oil of finest quality. The flesh is dark colored and bloody, but was in former times highly esteemed, and reckoned fit for the table of royalty, perhaps partly because among Rom. Catholics it was accounted *fish*. In the time of Queen Elizabeth, it was still used by the nobles of England, and was served up with bread-crumbs and vinegar. It is now used only in far n. regions, and is a chief dainty of the Greenlanders.—The Grampus (q.v.) is commonly referred to this genus.—Another species of P. (*P. Capensis*) is found near the Cape of Good Hope.

PORRACEOUS, a. *pŏr-rā'shŭs* [L. *porrācĕŭs*, green—from *porrum*, a leek]: greenish; resembling the leek in color.

PORRECT, a. *pŏr-rĕkt'* [L. *porrec'tus*, reached out or extended—from *porrīgo*, I extend]: in *bot.*, extending forth horizontally as if to meet something.

PORRIDGE, n. *pŏr'rĭj* [OF. *porée, porrée*, pottage made of beets and other herbs: It. *porrata*, leek-pottage—from L. *porrum*, a leek]: a kind of pudding made by slowly stirring oatmeal among water while boiling till a thickened mass is formed; a kind of broth. **PORRIDGE-POT**, the vessel in which porridge is made. **PORRINGER**, n. *pŏr'rĭn-jĕr* [from *porridge*]: a small earthenware or tin vessel out of which children eat their porridge—also called *pottenger;* in *OE.*, *porringer* is a word of contempt for a head-dress.

PORRIGO, n. *pŏr-rī'gō* [L. *porrīgo*, the scurf]: *formerly*, any affection of the head where there were scabs: see FAVUS: RINGWORM.

PORSENNA, *por-sĕn'nâ* (or **PORSENA**, *por'sē-nâ*), **LARS** or **LARTH** (*Lar*, in Etruscan, means 'lord' or 'prince'): in the early and uncertain history of Rome, a powerful king of Clusium in Etruria, about B.C. 500. According to the legend told by Livy for history, when Tarquin the Proud was expelled from Rome, he sought the help, first of the Veii and the Tarquinii (his Etruscan kinsmen), against his revolted subjects; but their efforts not proving successful, he turned to P., who willingly espoused his cause, and marched a great army against Rome. The Etruscan king seized the Janiculum, a fortified hill on the w. side of the Tiber; and would have forced his way into the city across the 'Bridge of Wooden Piles' (*Pons Sublicius*), had not a brave Roman, Horatius Cocles, kept the whole of P.'s army at bay, while his comrades behind him hewed down the bridge; after which he plunged into the Tiber, and safely swam across its waves. P., we are informed, then laid siege to Rome; and after a while, the inhabitants began to suffer so severely from famine, that they resorted to a desperate expedient: 300 of the noblest Roman youths were to peril their lives in cutting off the Etruscan king. The first on whom the lot fell was C. Mucius, who stole into the camp of P., but not knowing the person of the king, killed his secretary instead. He was instantly seized, and put to the torture; but the unshrinking audacity with which he thrust his right hand into the fire and let it burn, moved the king so much, that he pardoned him; whereupon Mucius (ever afterward called *Scævola*, 'the Left-handed') told him of the jeopardy in which he was placed. P. resolved to make peace with Rome at once, and his conditions, which were not severe, being accepted by the sorely-pressed citizens, he withdrew his forces. This version of the story is wholly discredited by modern criticism, and is believed to have been invented by the patriotic annalists of ancient Rome to conceal the fact of a temporary Etruscan conquest; and the evidence for this view is overwhelming. Tacitus even expressly affirms that P. conquered the city; Dionysius informs us that the senate sent him an ivory sceptre, a golden crown, and a triumphal robe, which was the form that had been adopted by the Etruscan cities themselves of acknowledging the supremacy of the Roman king, Tarquinius Priscus; and Pliny mentions a fact quite conclusive as a proof of the subjugation of Rome—viz., that P. forbade the citizens to use iron, except for agricultural purposes. Niebühr, who has placed this view beyond all doubt, notices various minor incidents which are perfectly unintelligible, except on the hypothesis of an Etrucsan conquest. All the details of the ancient legend, therefore, may be regarded as fabulous—the product of patriotic unveracity—and what seems most reasonable to believe, is, that a great rising of the Etruscan against the Latin races took place, and that Rome, forming the Latin frontier toward Etruria, was exposed to the first brunt of the war, and suffered a disastrous defeat; but that shortly afterward the Etruscans themselves were decisively beaten, and forced back into their own territories; for after the conquest of Rome, Aruns, son of P., proceeded against Aricia, where (according to Livy) his army was routed under the walls of that city by the combined forces of the Latin cities, with the help of Greek auxiliaries from Cumæ. It is worth while quoting, as a proof of Niebühr's wonderful talent for felicitous conjecture, that he explains the long-surviving Roman custom of beginning an auction by offering for sale the goods of King P., by the supposition, that in the recovery of their independence, the Romans probably captured property belonging to their late master, which they may have publicly sold. The sepulchre of P. at Clusium is described by Varro, but his description is not credible. The ancient legend has been magnificently rendered in modern verse by Macaulay: see *Lays of Ancient Rome.*

PORSON, *por'son,* RICHARD: greatest Greek scholar that England has ever produced: 1759, Dec. 25—1808, Sep. 25; b. East Ruston, Norfolk, where his father was parish clerk. The curate of the parish conceiving a liking for the boy, on account of his omnivorous appetite for books and his marvellous memory, took charge of him, and had him educated with his own sons. For books, he had had only the few chance volumes found in his father's cottage. P. afterward found a patron in Mr. Norris (founder of the Norrisian professorship at Cambridge), who sent him to Eton 1774, where he remained four years, but did not gain any of the ordinary distinctions, though it is evident that there his mind acquired a fixed bias toward classical studies. Another patron, Sir George Baker, sent him, 1778, to Trinity College, Cambridge, of which he was elected a scholar 1780. Next year he won the Craven scholarship, subsequently, the first chancellor's medal. In 1782 he was chosen a fellow of Trinity. It was about this time that he began to give indications of his subtle sagacity and taste in the difficult verbal criticism of the Greek dramatists. For four years he contributed to Maty's *Review*—his first critique being on Schulz's Æschylus, and his finest on Brunck's Aristophanes. He also opened a correspondence with Prof. Ruhnken. If, however, we are to judge from a quatrain written at a later period of his life, he did more than correspond:

I went to Strasburg, where I got drunk
With that most learned Professor Brunck;
I went to Wortz, and got more drunken
With that more learned Professor Ruhnken.

In 1787 appeared, in the *Gentleman's Magazine,* his sarcastic letters on Hawkins's *Life of Johnson.* For the same periodical, he wrote his far more famous and trenchant *Letters to Travis on the Three Witnesses.* The dispute concerned the genuineness of John i. 7, 8, and was occasioned by a blundering and pretentious defense of the passage by Archdeacon Travis, against the scornful attack of Gibbon. P. naturally incurred great odium on account of the side which he took in this controversy. One old lady who had him in her will for a legacy of £300, cut it down to £30 when she heard that he had written what was described to her as a book against Christianity. In 1792 he resigned his fellowship, as he found that he could not conscientiously take orders in the church: the liturgy he could have signed heartily, but not the articles; and he would not dissemble. Some of his friends now raised a fund to preserve him from want, and about £100 a year was secured. He was also appointed to the regius professorship of Greek in the Univ. of Cambridge—an office, indeed, with emolument of only £40 a year; yet so splendid was his learning, so admirable his taste, so vigorous and epigrammatic his style of criticism, that he might easily—by a moderate degree of continuous literary labor—have gained a handsome income. But already 'two devils had him in their gripe'—proscrastination and a raging thirst for drink—and they held him firm to the end of his melancholy career. The only thing that he ever did in connection with his Greek professorship was to deliver a *prælectio* so excellent, that, it has been said, if he had passed from verbal to æsthetic criticism, he would have surpassed all his countrymen in that too. In 1794 he edited the plays of Æschylus for the Foulis press, Glasgow; and 1797–1801, four of Euripides—the *Hecuba,* the *Orestes,* the *Phœnissæ* and the *Medea.* He also collated the Harleian MS. of the *Odyssey* for the *Grenville Homer*. In 1806 he was appointed librarian of the 'London Institution' with a salary of £200; but was so grossly negligent of his duties, that the directors officially notified their dissatisfaction in these emphatic words: 'We only know that you are our librarian by seeing your name attached to the receipts for your salary.' P. had married 1796 Mrs. Lunan, who, if she had lived, might have aided him to resist his habit of drinking; indeed the marriage brought him into greater regularity of life. But the death of his wife five months after marriage, remanded him to his chambers in the Temple and his old habits. He died of apoplexy, in the 49th year of his age, and was buried with great pomp in the chapel of Trinity College, Cambridge. P.'s rage for drink was fearful. He would pour anything down his throat rather than endure the 'terrible torture of thirst.' Ink, spirits of wine for the lamp, an embrocation, are among the horrible things he is reported to have swallowed in his extremity. 'He used to return to the dining-room after the company had left it; pour into a tumbler the drops remaining in the wine-glasses, and drink off the collectanea.' In fact, his thirst was so outrageous, that P. cannot be considered a mere wilful drunkard; one must believe that he was driven into his excesses by some unknown disease of his constitution (see POLYDIPSIA). He was generous in his disposition; and he was a lover of truth, willing to sacrifice self-interest for its sake. P.'s memory was as amazing as his thirst. The anecdotes told by his biographers almost surpass belief, yet are thoroughly authenticated. His critical acumen has never been matched in England. His tracts, reviews, letters, etc., were collected and edited, with a biographical notice, by Kidd, 6 vols. See 'Porsoniana' in Rogers's *Table-Talk,* and the Rev. J. Selby Watson's *Life of Richard Porson, M.A.* (1861).

PORT, n. *pōrt* [F. *porte;* It. *porta,* a door, a gate; *porto,* a harbor—from L. *porta,* a gate]: a gate; an entrance; a harbor; a safe station for ships (see PORT OF ENTRY; below). PORT′AL, n. *-ăl,* a small door or gate; any passage; on a vessel, an aperture below deck in the sides or stern, for admitting light and air (see PORTHOLE): the smaller gate where there are two; the arch over a door or gate; recess to a large doorway, such as the entrance to a church (see PORCH): ADJ. in *anat.*, relating to the *porta* or gateway of the liver. PORT′ING, imp. PORT′ED, pp.: ADJ. having gates. PORT′ER, n. *-ėr,* a door or gate keeper; a waiter in a hall. PORT′RESS, n. *-rĕs,* a woman who attends a gate. PORT ADMIRAL, an officer in charge of a naval port, and of the vessels of war resorting thither. PORT CHARGES or DUES, certain sums paid for harbor or wharfage accommodation. PORT-LID, hanging-door that shuts the port or Porthole (q.v.). PORT OF ENTRY, a harbor where a custom-house is established for the lawful entry of excisable merchandise. PORT-TOWN, a town having a port, or situated near one. PORT-WARDEN, the officer in charge of a port; a harbor master. STEAM-PORT and EXHAUST-PORT, in a *steam-engine,* the openings for the constant or alternate entrance or exit of the steam, the former for the entrance, the latter for the exit.—SYN. of 'port, n.': haven; harbor; gate; entrance; gateway; opening; passage; inlet; cove; recess; embrasure.

PORT, v. *pōrt* [F. *porter,* to carry—from L. *portārĕ,* to carry, to bear: It. *portare*]: to carry a rifle or firearm in a slanting direction upward across the body in front, the lock to the front, the barrel crossing opposite the front of the left shoulder—as in the military command 'to *port* arms': among *seamen,* to turn or put to the left side of a ship, as '*port* the helm'—that is, 'put the helm over to the larboard side of the ship': N. the left side of a ship, looking forward, as 'the ship heels to *port*'—that is, inclines to the left or larboard side—the term *Larboard* (q.v.) was formerly used: the manner in which a person bears himself; carriage; demeanor; air. PORT′ING, imp. PORT′ED, pp.: ADJ. carried in front slanting upward and across. PORT′ABLE, a. *-ă-bl* [It. *portabile;* F. *portable*]: that may be easily carried, as by hand; not bulky or heavy; easily transported. PORT'ABIL'ITY, n. *-bĭl'ĭ-tĭ*, the state of being portable; fitness to be carried. PORT'ABLENESS, n. *-bl-nĕs*, the quality of being portable. PORT'AGE, n. *-āj*, the act of carrying; the price of carriage; in *Amer.*, a break in a chain of water communication, over which merchandise, stores, and boats have to be carried on men's backs, or otherwise. PORT-CRAYON, *pōrt-krā'ŏn*, a metal tube split at each end for holding crayons or chalk-pencils. PORT'ER, n. *-ėr*, one who carries burdens for hire; one who does the heavy work of a ship: a dark-colored malt liquor, at first made for and drunk by *porters* (see below). PORT'ERAGE, n. *-āj*, the money paid for the carriage of parcels or luggage by porters. PORT'LY, a. *-lĭ*, stately; having a dignified port or mien; bulky; corpulent. PORT'LINESS, n. *-lĭ-nĕs*, dignity of personal appearance depending upon large size of body and dignified manners; bulkiness; corpulence.—SYN. of 'port, n.': air; mien; carriage; bearing; behavior; deportment; demeanor; conduct.

PORT, n. *pōrt* [from *Oporto*, in Portugal]: a dark purple wine from Portugal.

POR'TA, BAC'CIO DEL'LA: see BACCIO DELLA PORTA.

PORT AD'ELAIDE (S. Australia): see ADELAIDE.

PORTADOWN, *pōrt-a-down'* (Ir. *Port-na-Doon*, Port of the Fort): market and manufacturing town of county Armagh, Ulster, Ireland; on the Bann, 11 m. n.e. of Armagh by railway. It was formerly the seat of the M'Canns, a clan tributary to the O'Neil, and formed part of the territory 'settled' by James I., and afterward by Charles I. It has a trade in corn, flax, and other agricultural produce; and is the seat of extensive manufacture of linen yarns and linen. Communicating by canal with the sea at Newry, and by railway with Belfast, it has also considerable import trade. P. is connected by the Ulster railway with Armagh, Dungannon, and with the several n.w. counties. Pop. (1871) 6,735; of whom 3,147 were Prot. Episcopalians, 1,932 Rom. Catholics, 857 Presbyterians, 715 Methodists; (1881) 7,850.

PORTAGE, *pōrt'aj:* city, county-seat of Columbia co., Wis., at the head of navigation on the Wisconsin river, and on the govt. ship canal connecting the Wisconsin and Fox rivers. It is at the junction of three divisions of the Chicago Milwaukee and St. Paul railroad, and is the terminus of the s. division of the Wisconsin Central railroad, 32 m. n. of Madison, 85 m. n.w. of Milwaukee. It has a high school and excellent graded schools, a number of manufactories, flour and planing mills, for which the canal furnishes water-power. The town was formerly called Winnebago Portage. Pop. (1880) 4,346; (1890) 5,130.

PORTAGE EPOCH, in Geology: lowest group in the Chemung period, Devonian age; named from Portage, N. Y., where 1,000 ft. of this group of rocks are seen in the upper gorge of the Genesee river. The rocks consist of shales and laminated sandstones; they are well exhibited at Ithaca, N. Y., and 1,400 ft. of them near Lake Erie, but have not been identified in e. N. Y., nor at the west, where the older black Genesee shales are followed by the sub-carboniferous. The fossils are sea-weeds, land-plants, shells, rarely a trilobite; in Delaware co., some fish-teeth.

PORTALIS, *por-tâ-lēss'*, JEAN ÉTIENNE MARIE: jurist: 1745, Apr. 1—1807, Aug. 23; b. France. He was educated at Toulon, Marseilles, and the Univ. of Aix, and soon became a prominent advocate and a leader in public affairs. In 1770 he drafted the decree by which Protestants were allowed to marry, was one of the administrators of Provence 1778–81, opposed the May edicts 1788, and was defeated for the states-general 1789. He declined the position of commissioner for dividing Provence into departments, was imprisoned after the formation of the republic, but on the overthrow of Robespierre was released and practiced law at Paris, led the opposition to the directory 1795, was afterward proscribed and found refuge in Switzerland. Bonaparte made him one of the four commissioners to form the *Code Civil*, of which he wrote many of the most important articles. He was a member of the Acad., became minister of public worship 1804, and the following year received the grand cross of the Legion of Honor. He died at Paris.

PORTAMENTO, n. *pōrt'ă-mĕn'tō* [It.—from L. *portārĕ*, to carry]: musical term used for the sustaining of the voice, and passing from one note to another.

PORTARLINGTON, *pōrt-âr'lĭng-ton:* market-town, partly in King's county, partly in Queen's county, Leinster, Ireland: on the Barrow river, 44 m. w.s.w. from Dublin, with which it communicates by the Great Southern and Western railway. P., anciently Cooltetoodra, was granted by Charles II. to the Earl of Arlington, and called by his name. In the time of William III. Gen. de Rouvigny planted in it a colony of French and Flemish Protestants, many of whose descendants remain. The town has private schools of considerable reputation, at one of which the late Duke of Wellington and his brother Lord Wellesley were scholars. Pop. (1871) 2,424, of whom 1,688 Rom. Catholics, 673 Prot. Episc.; (1881) 2,426.

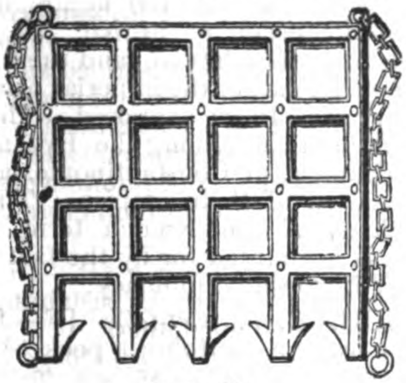
PORT-AU-PRINCE, *pōrt-o-prĭnss'*, F. *pōr-tō-prăngss'*, or PORT-REPUB'LICAN: city, capital of Hayti (q.v.), on the w. coast, at the head of the Bay of P. It has a fine appearance from the sea, but the interior is filthy in the extreme. The houses are chiefly of wood, and dunghills obtrude everywhere, even in the thoroughfares. The most notable buildings are the palace and the senate-house; other public edifices are the churches, a lyceum, college, custom-house, mint, and hospital. P. carries on a trade in mahogany, logwood, honey, coffee, cocoa, and rags.

The town has suffered frequently from earthquakes. The people are mostly negroes and mulattoes. Pop. about 21,000.

PORT CHESTER, *pŏrt chĕs'tėr:* incorporated village (1868) in Rye township, Westchester co., N. Y., on Long Island Sound, and on the New York New Haven and Hartford railroad; 25 m. n.e. of New York, 30 m. w.s.w. of Bridgeport, Conn. The business portion of the village is on Byram river, which is navigable to the wharves about one m. from the sound, and has considerable trade. The river separates it from Greenwich, Conn. It has a high school, a good graded school, a newspaper office, a number of churches, an iron-foundry, shirt factories, an iron-bolt and a carriage-coupling manufactory, and a woolen-mill. Pop. (1880) 3,254; (1890) 5,538.

PORT- (or PORTE-) CRAYON: see under PORT 2.

PORTCULLIS, n. *pōrt-kŭl'lĭs* [F. *porte-coulisse,* a sliding-gate—from *porte,* a gate; *couler,* to slide: L. *porta,* a door; *colārĕ,* to filter, run]: frame or grating of wood strengthened with iron in the form of a harrow, suspended over the doorway of a fortified place, and sliding in vertical grooves in the jambs of the entrance gate, for defense against assault. The vertical bars were pointed with iron below, and struck on the ground when the grating was dropped, so as to injure whatever it fell upon. In heraldry, the portcullis is represented with rings at its uppermost angles, from which chains depend on either side. Portcullis is the title of a pursuivant in the English College of Arms, whose office was instituted by Henry VII. PORTCULLIS, v. to arm with a portcullis; to bar or obstruct. PORTCUL'LISING, imp. PORTCUL'LISED, pp. *-lĭst:* ADJ. having a portcullis.



Portcullis.

PORT DARWIN, *pōrt dâr'wĭn:* one of the finest harbors in Australia; on the n. coast of the island continent. It is in the Northern Territory politically connected with S. Australia; though it is about 2,000 m. n.n.w. from Adelaide, with which there is regular connection by mail steamers. It is named after Charles Darwin, who, with Dr. King, made a survey of the n. coast (1818–22). The entrance is two m. wide, with a depth of water of 15 fathoms; vessels of any tonnage can enter with safety.—Palmerston, metropolis of the settlement, stands on its e. side; pop. of district (1881) 572. The overland telegraph cable enters the sea at this point, connecting with Java, Singapore, and India. A survey for a railway from P. D. to Pine Creek gold-fields has been made, which would connect the Northern Territory with the main railway system of the province.

PORT D'URBAN, *pōrt dėr-băn'*, or Port Natal, *na-tâl':* only seaport of the colony of Natal (q.v.): see Durban.

PORTE, n. *pōrt*, or Sublime Porte [F. *porte;* L. *porta*, a gate: name formerly (and still occasionally) given to the Ottoman court, being a perverted F. translation of *Bab-i-Ali—lit.*, the High Gate—the chief office of the government: L. *sublīmis porta*, the lofty gate]: court and government of the Turkish empire. The origin of this name is to be referred to the ancient oriental custom of making the gates of cities and of king's palaces places of assembly in connection with the affairs of government and of the administration of justice. In the Byzantine empire this custom was adopted, and the term was transferred from the high gate of the imperial palace to the govt. whose authority was there exercised. The Turks found the term in common use among the Byzantines previous to their establishment at Constantinople, and adopted it on the organization of their empire. The use, among European nations, of the French term *Sublime Porte* ('Lofty Gate') is accounted for by the fact that French is the language of European diplomacy.

PORTE-FEUILLE, n. *pōrt-fėl'yė* [F.—from *porter*, to carry; *feuille*, a leaf]: a portfolio; a pocket-book.

PORTELECTRIC SYSTEM of Transportation: modification of the electric railway adapted for rapid transport of mail and light packages. A steel car, long and narrow, is carried on a track, preferably an elevated one. The track is surrounded at intervals, smaller than the car-length, with coils of insulated wire, representing electromagnet coils. It is evident that if a current is passed through one of the coils a car near it will be drawn into it by electromagnetic action. This is utilized to drive the car. The motion of the car makes and breaks circuits, so that the current is caused to pass through the coil in front of it, and before its centre has reached the centre of the coil, it breaks the circuit and makes it for the coil next in advance. In this way it is continually drawn along without any motor, and with no moving parts except its own wheels and the subsidiary make and break switches. The car in its motion generates a certain amount of counter-electromotive force which acts as a regulator in preserving a constant speed. The coils near the starting points are made of extra power to start the car into motion. As a brake, the current is maintained in the helices near the stopping point after the car has passed their centres, thus drawing it back and bringing it quickly to rest.

PORT ELIZABETH, *pōrt ĕ-lĭz'a-bĕth:* important seaport of s. Africa, commercial cap. of the E. Province of the British colony of the Cape of Good Hope; on the w. shore of Algoa Bay (q.v.). Its public buildings are solid and substantial: the principal are the town-house, public hospital, Presb. and other churches, and the Rom. Cath. cathedral. The Grey Institute Schools comprise a high school or college, and three elementary or dist. training-schools. The town was founded 1820. Notwithstanding its poor harbor, and lack of good drinking-water, P. E. early made more rapid advancement than any other town in the colony; but these drawbacks were removed by the great improvements in the harbor 1881, and by the construction of a 28 m. long aqueduct 1878. P. E. owes its commercial importance in great part to its being the emporium of the great wool trade of the colony; besides it has a rapidly-increasing home and foreign trade. The transactions of its four banks are extensive. Two lines of railway run inland from P. E. The value of imports increased from £376,638 (1855), to £4,001,658 (1881), and to £2,364,891 (1883); that of the exports (mainly wool, ostrich feathers, Angora goats' hair, hides, ivory, and diamonds) from £584,447 (1855), to £2,583,737 (1881), and £2,341,123 (1883). The shore is open to the swell of the Indian Ocean, which often rolls in upon the beach with such violence that, until recently, cargoes could be brought to land only by the use of surf-boats, managed with great skill and daring by the Kafir boatmen. But this mode is now largely discarded by reason of the improvements referred to above, and ships unload at several jetties. A breakwater has been constructed, and there are three lights for direction of vessels. Pop. (1855) 4,000 or a little more; (1875) 13,049.

PORTEMONNAIE, n. *pōrt-mŏn'nā* [F.—from *porter*, to carry; *monnaie*, money]: a small pocket-book for carrying money; a purse.

PORTEND, v. *pŏr-tĕnd'* [L. *porten'dĕrĕ*, to indicate future events, to predict—from *pro*, forward; *tendĕrĕ*, to stretch: It. *portendere*]: to indicate as something future by signs or tokens, in an ominous sense; to forebode; to presage. PORTEND'ING, imp. PORTEND'ED, pp. previously indicated by signs. PORTENT, n. *pŏr'tĕnt* [L. *porten'tum*, an omen, a portent]: an ill omen; a sign of coming calamity. PORTENTOUS, a. *pŏr-tĕn'tŭs*, ominous; foreshadowing ill; wonderful, in an ill sense; prodigious; excessive. POR-TEN'TOUSLY, ad. *-lĭ.*—SYN. of 'portend': to foretoken; betoken; presage; foreshow; forebode; augur; threaten.

PORTER: kind of malt liquor which came into use in London 1722. According to Leigh, 'the malt liquors previously in use were ale, beer, and twopenny, and it was customary to call for a pint or tankard of half-and-half—i.e., half of ale and half of beer, half of ale and half of twopenny, or half of beer and half of twopenny. In the course of time it also became the practice to ask for a pint of tankard of three-thirds (or, as it became corrupted, *three threads*), meaning a third each of ale, beer, and twopenny; and thus the publican was obliged to go to three casks for a single pint of liquor.' To avoid this trouble and waste, a brewer, Harwood, made a liquor partaking of the united flavors of ale, beer, and twopenny: this he called entire, or entire butt beer, 'meaning that it was drawn entirely from one cask or butt; and being a hearty nourishing liquor, it was very suitable for porters and other working people. Hence it obtained the name of Porter, and was first retailed at the Blue Last, Curtain Road, Shoreditch.' The chief characteristics of P. are its dark-brown color, peculiar bitter flavor, and agreeable freshness in drinking. Formerly it was generally brewed with malt roasted until slightly brown; now, however, under the improved system of brewing, pale malt is used, with the addition of some highly roasted, for color only. Enormous quantities are brewed by the London brewers. A kind much stronger than ordinary P. is also extensively brewed in London, Dublin, and elsewhere, under the name of *stout.* The name porter is now seldom used, stout being the general designation.

PORTER, *pōr'tėr*, ANDREW: revolutionary soldier: 1743, Sep. 24—1813, Nov. 16; b. Worcester, Penn. He established an Eng. and math. school in Philadelphia 1767, continuing it to 1776, when he was appointed officer of artillery, after brief service as capt. of marines. By successive promotions he became col. of a Penn. regt., and was in the most noted battles of N. J. and Penn.; also in the campaign of Gen. Sullivan against the Six Nations of Indians, 1779, when he rendered important service in enabling boats to pass between the valleys of the Mohawk and Susquehanna rivers. At the end of the war, declining a professorship in the Univ. of Penn., he engaged for a time in surveying the boundary of the state; became brig.-gen. of militia 1801, afterward maj.gen.; surveyor-gen. 1809; and, on account of infirmities, declined the secretaryship of war under Pres. Monroe. He d. at Harrisburg, Penn.

POR'TER, DAVID: commodore: 1780, Feb. 1—1843, March 3; b. Boston. His father, grandfather, and other relatives distinguished themselves in naval service; also his son, Adm. David D. Porter. In his youth he was twice impressed into the Brit. service, while on merchant voyages, but made his escape. As midshipman on the frigate *Constellation*, he had part in the battle with the French *Insurgente*, 1799, and the next year, as lieut., he repelled an attack on his schooner in the W. Indies, afterward capturing a French vessel of 14 guns. In 1803 his like success off Tripoli ended in his capture and imprisonment. Released when peace was made, he rose to the captaincy of the frigate *Essex*, 32 guns, seized a Brit. transport, and took the first Brit. ship of war in the war of 1812. The next year his exploits were in the Pacific, where he destroyed the Brit. whale ships, the damage computed at 2½ million dollars. Arming one of the vessels taken and naming it *Essex, Jr.*, he subdued and claimed one of the Marquesas Islands for the United States; returned to Valparaiso 1814, where he fought a hard battle with the Brit. ship *Phœbe*, 53 guns, whose long range proved the destruction of the *Essex*. On parole to the Brit. captain, he reached Sandy Hook in the *Essex, Jr.*, and was seized by one of the enemy's ships, but escaped, and was voted thanks by congress. In subsequent operations against pirates in the W. Indies, he was court-martialed for his acts at Porto Rico. He commanded the Mexican navy 1826–29; and afterward was U. S. consul-general to the Barbary States; and in diplomatic service at Constantinople, where he died. He published *Journal of Cruise in the Pacific Ocean* (1815), and *Constantinople and Its Environs* (1835).

POR'TER, DAVID DIXON: admiral U. S. N.: 1814, June 8—1891, Feb. 13; b. Philadelphia; son of David P. (q.v.), distinguished naval officer. In 1826 his father was made commander-in-chief of the Mexican navy in the war against Spain, and the boy went with him as midshipman. He was on the *Guerrero*, which was captured after a hot engagement. In 1829 he became a midshipman in the U. S. navy, and 1845 was attached to the Washington Observatory. In 1849 he commanded in the mail service to California. On the date of the breaking out of the civil war, he had reached the grade of commander, and was sent by the govt. to the relief of Fort Pickens, characteristically evading the revocation of the order. He prepared a fleet of mortar-boats to aid in the reduction of New Orleans. After the fall of that city, P. was placed in command of all the naval forces on the Mississippi, with the rank of rear-admiral. His services in these waters were very valuable, and proved his tactical skill, readiness of utility of resources, and boldness of initiative. He commanded the naval forces which captured Fort Fisher 1865. In 1866 he was made vice-admiral, and for two years was supt. of the Naval Acad. He succeeded Farragut as the admiral of the navy on the death of that hero 1870.

During the remainder of his life his duties were chiefly consultative. In his later years he did something on the field of literature, publishing a life of his father (1875), *Anecdotes of the Civil War* (1885), and a *History of the Navy in the War of the Rebellion* (1887).

He prided himself, however, more on his novels, of which he published two—*Allan a Dare* and *Robert le Diable* (1885), and *Henry Marline* (1886), than on his more serious writings, more even, perhaps, than on his professional renown. Admiral P. died, and was buried at Washington, D C. His death called forth expressions of respect for his personal bravery and splendid achievements from the whole people.

POR'TER, EBENEZER, D.D.: congregational minister, professor of sacred rhetoric: 1772, Oct. 5—1834; b. Cornwall, Conn.; son of Thomas P., jurist and revolutionary soldier. He was graduated at Dartmouth Coll. 1792, and after a private course in theol. was pastor at Washington, Conn., 1796–1812, then becoming prof. of sacred rhet. at Andover Theol. Seminary, over which institution he presided 1827–34. He died at Andover. He published *The Young Preacher's Manual* (1819); *Analysis of Vocal Inflections* (1824); *Analysis of the Principles of Rhetorical Delivery* (1827); *Syllabus of Lectures* (1829); *Lectures on Revivals of Religion* (1832); *Cultivation of Spiritual Habits, and Progress in Study* (1833); *Lectures on Homiletics, Preaching, and Public Prayer* (1834). His *Lectures on Eloquence and Style* were published after his death by the Rev. Lyman Matthews, who also wrote a memoir of his life.

POR'TER, FITZ JOHN: soldier: b. Portsmouth, N. H., 1822, June 13; son of Commander John P., U.S.N. He graduated at the U. S. Milit. Acad., and was assigned to the 4th U. S. artil. 1845; served through the Mexican war, was wounded at the capture of Mexico City, and received brevets of capt. for services at Molino del Rey and maj. for Chapultepec; and was asst. instructor of artil. in the U. S. Milit. Acad. 1849, adjt. 1853–4, and instructor of artil. and cav. 1854–5. In 1856 he was appointed asst. adjt.gen. U. S. A. He was appointed col. 15th U. S. inf. 1861, May 14, and brig.gen. of vols. May 17, and served under Gens. Patterson and Banks till Aug., when he was assigned to duty in connection with the protection of Washington. In the Peninsular campaign in Va. he successfully directed the siege of Yorktown Apr. 5—May 4, and was rewarded with command of the 5th corps, right wing of the Army of the Potomac. He fought the battles of Mechanicsville June 26, and Gaines's Mill June 27; was brevetted brig.gen. U. S. A. for the latter; commanded the left flank which bore the brunt of the Confederate assaults at Malvern Hill July 1, and July 4 was promoted maj.gen. vols., and temporarily assigned to Gen. Pope's army of Va. In the second battle of Bull Run he was ordered to attack Gen. Longstreet Aug. 29, but did not do so; and on the following day was actively engaged, and saved the army from total rout. He was deprived of his command for disobedience of orders, was restored at Gen McClellan's request, and rendered good service at Antietam. 1862, Nov. 27, he was tried by court-martial for disobeying orders, and 1863, Jan. 21, was cashiered. His defense was that he did not receive the 4:30 o'clock order to attack till 6:30, when it was too late, and that, unknown to Gen. Pope, Gen. Longstreet had an overwhelming force before him, which it would have been folly to attack. After persistent efforts by P. to secure a reversal of the decision of the court-martial, congress authorized the appointment of an advisory board to rehear the case 1878. The board exonerated P., and recommended his restoration. Pres. Arthur remitted the disqualifying portion of the sentence 1882; several bills for P.'s relief failed to become law; 1886, July 1, a bill for his restoration was signed by Pres. Cleveland, and at his own request he was placed on the retired list as col. Aug. 7 following. After his dismissal from the army he was offered and declined th command of the Egyptian army 1869; superintended the construction of the N. J. asylum for the insane at Morris Plains; and was commissioner of public works in New York 1875–6, and of police 1884–89.

POR'TER, HORACE: born Huntingdon, Penn., 1837, Apr. 15; son of Gov. David R. P. He graduated from West Point 1860, and was for a few months instructor there. In the civil war he served as ordnance officer at various points, reached the rank of col. while on the staff of Gen. Grant, and was milit. sec. to the general during his first presidential term. He resigned from the army 1873, has since been connected with prominent railroad enterprises, and has made some useful inventions. He has written for various magazines and published *West Point Life* (1866)

POR'TER, JANE: novelist: 1776–1850, May 24; b. Durham, England; daughter of a surgeon in the army, and sister of Robert Ker P., artist of note. Her father died while she was young, and her mother removed to Edinburgh, where Jane was educated; and thence 1790 to London. In 1803 she published her first novel, *Thaddeus of Warsaw,* which immediately captivated the public, was translated into several languages, and is still read with interest, as is also *The Scottish Chiefs* (1809). At the request of George IV., she wrote *Duke Christian of Luneburgh, or Traditions of the Hartz,* pub. 1824. In 1831 *Narrative of the Shipwreck of Sir Edward Seaward* appeared, and has been persistently attributed to her, but was written by her oldest brother, Dr. William Ogilvie Porter. She died at Bristol.—Her sister ANNA MARIA P. (1780–1832, b. Durham) was a more prolific but less interesting writer.

POR'TER, JOSHUA: 1730–1825, Sep. 12; b. Lebanon, Conn. After graduating from Yale College 1754, he studied medicine and commenced practice at Salisbury, Conn. He served in the assembly, was col. of the state militia, and at the battle of Saratoga led a regt. which had been left without a commanding officer. He died at Salisbury.

POR'TER, MOSES: 1755–1822, Apr. 14; b. Danvers, Mass. He served throughout the revolution, entering the army as lieut. of artillery 1775, May 19; and after the close of the war was retained as an officer of the standing military force. He was with Gen. Wayne in the expedition against the Indians in the northwest 1794, and served at numerous points in the war of 1812. By various promotions he reached the rank of col., and 1813 he was brevetted brig.gen. He died at Cambridge, Mass.

POR'TER, Noah, d.d., ll.d.: president of Yale University, and author: b. Farmington, Conn., 1811, Dec. 14; son of Noah P., d.d. He graduated at Yale 1831; was principal of the Hopkins School, New Haven, two years; tutor in the college 1833-35; pastor of First Chh. (Congl.), Milford, Conn., 1836-43, and of South Congl. Chh., Springfield, Mass., three years ensuing; then becoming professor of metaph. and moral science at Yale. He was pres. of the univ. 1871-86, also discharging the duties of his professorship. Under his administration the university prospered, and many new features were added. He retired from the presidency 1886, feeling the need of rest, but retaining his professorship. His learning, depth of thought, and ability of statement are conspicuous in his chief work, *The Human Intellect* (1868, 8vo, issued also in abridged form). Other publications are *Books and Reading* (1870); *Amer. Colleges and the Amer. Public* (1871), conservative; *Sciences of Nature versus the Science of Man* (1871), reviewing the Spencerian synthetical philosophy; *Evangeline—the Place, the Story, and the Poem* (1882); *Science and Sentiment* (1882); *Elements of Moral Science* (1885); *Life of Bishop Berkeley* (1885); *Kant's Ethics* (1886). In conjunction with the late Prof. Chauncey A. Goodrich, d.d., Dr. P. revised Webster's quarto dictionary.—**Sarah P.**, his sister, b. Farmington, Conn., 1813, Aug. 17, founded in her native town a school for young women, which has grown to the highest reputation, and occupies a handsome building donated by graduates.

POR'TER, Peter Buel: soldier: 1773, Aug. 4—1844, March 20; b. Salisbury, Conn. He graduated at Yale 1791, began law-practice at Canandaigua, N. Y., 1795, was elected to congress 1808, and 1811 drew up and presented the report that recommended a declaration of war against England. When hostilities began he took command of a body of N. Y. and Penn. volunteer troops, to which was annexed a force of Indian warriors from the Six Nations. P.'s operations were chiefly in w. N. Y. and in Canadian territory just across the Niagara river. He showed great gallantry in the battle of Chippewa, and at Lundy's Lane, and led a brilliant sortie at the siege of Fort Erie. He declined, 1815, the command-in-chief of the army, tendered him by Pres. Madison. He entered congress again 1815. P. was one of the projectors of the Erie canal. He was appointed sec. of war 1828, by Pres. Adams.

POR'TER, Robert P.: born Norwich, England, 1852. He came to this country when 16 years of age, worked on a country newspaper in Ill., and afterward was connected with the Chicago *Inter-Ocean*. He received the appointment of chief of one of the divisions of the census bureau 1879, became sec. of the tariff commission 1882, and afterward spent some time in Europe studying the industrial situation and gathering statistics. The results of this investigation were given in a series of articles published in the Philadelphia *Press*, and which have been widely used in the interests of a high protective tariff. In connection with Frank Hatton he founded the New York *Press*, a republi can protectionist newspaper, 1887, of which he has since been the editor. He was appointed supt. of the eleventh census 1889, Apr. 17.

PORTER, WILLIAM DAVID: naval officer: 1809, Mar. 10—1864, May 1; b. New Orleans; son of Commodore David P. He studied at Philadelphia, became a midshipman in the U. S. navy 1823, was in active service on various ships till 1855, after which, for four years, he was on the reserved list, when he again became commander. In the civil war he rendered valuable service at various points on the Mississippi river. In the attack on Fort Henry he was in command of a ship, and was badly injured; commanded a vessel at the capture of Fort Donelson, destroyed the Confederate war vessel *Arkansas*, and participated in the attacks on Natchez, Vicksburg, and Port Hudson. Two of his sons fought under the Confederate flag. P. was promoted commodore 1862, July 16. He died at New York.

PORTERFIELD, *pōr'tėr-fēld,* **CHARLES**: soldier: 1750–1780, Oct.; b. on Santee river, S. C.; bro. of Robert P. He joined a company of vols. under Capt. Daniel Morgan, 1775, and with it marched to Cambridge, Mass.; then was in the expedition against Quebec, and was taken prisoner. After being exchanged, P. took command of a company in Morgan's rifle corps and served in that command during the campaigns of 1777–8. As lieut.col. of a Va. regt. he marched to the relief of Charleston 1780. While serving in the advanced guard of Gen. Gates's army, he received a mortal wound in a skirmish with the advanced guard of the enemy.

PORTERFIELD, ROBERT: soldier: 1752 Feb. 22—1843, Feb. 13; b. Frederick co., Va.; bro. of Charles P. (q.v.). He became lieut. in a company of vols. 1776; served under Col. Daniel Morgan through the campaigns of 1777–79, and was in the battles of Brandywine, Germantown, and Monmouth. He participated in the seige of Charleston, S. C., and there was taken prisoner 1780, May. He was magistrate of Augusta co., Va., more than 50 yrs., and was sheriff twice.

PORTER, PORTERAGE, etc.: see under PORT 2.

PORTFIRE, *pōrt'fīr:* fuse or slow match for firing mines, and formerly for artillery. It consists of a paper tube 16 to 20 inches in length, filled with a composition thus proportioned—saltpetre 666 parts, sulphur 222 parts, mealed gunpowder 112 parts. The composition is rammed with force into the paper barrel, and then, when ignited, it burns for a considerable period. As a substitute, may be employed soft brown paper dipped in a solution of two ounces of nitre to a gallon of water, dried, and rolled up to the size of a common portfire. Another portfire consists of a rod cut square, of lime, birch, or poplar, boiled for six hours in a solution formed by dissolving one pound of nitrate of lead in one quart of water: the rod is subsequently boiled in spirits of turpentine; and when thoroughly dried, one yard will burn three hours.

PORTFOLIO, n. *pōrt-fō'lĭ-ō* [F. *porte-feuille*—from *porter*, to carry; *feuille*, a leaf—from L. *portārĕ*, to carry; *folĭŭm*, a leaf]: a portable case in which to keep loose papers; a collection of prints, designs, and the like: in certain foreign governments, the office and functions of a minister of state.

PORT-GLASGOW, *pōrt-glăs'gō:* parliamentary burgh and seaport of county Renfrew, Scotland; on the Clyde, about 2 m. e. of Greenock, 20 m. n.w. of Glasgow. It was founded 1668 by the magistrates of Glasgow as a harbor for the ships that belonged to or traded with their city—the Clyde at Glasgow being then inconveniently shallow, and the plan of deepening the river not having yet been proposed. In 1695 the town and a small adjacent dist. were made into an independent parish; 1710, it was constituted the principal custom-house on the Clyde, and for a while took the lead of Greenock; 1775, it was incorporated as a municipality, and by the Reform Bill 1832, was raised to a parliamentary burgh. P.-G. is well built. The principal buildings are the town-house, custom-house, and churches of various denominations. It has extensive manufactures of sail-ropes, chain-cables, several sugar-refineries, foundries, building-yards, commodious quays, and an extensive wet-dock. The deepening of the Clyde, enabling large vessels to ascend to Glasgow, seriously injured its commercial prosperity, though the trade and shipping remain considerable, and in recent years are again increasing. Pop. (1871) 9,851; (1881) 10,801.

PORTH, n. *pōrth* [L. *portus*, a harbor]: in *Cornwall* and *Wales*, a cove or creek of the sea.

PORT HENRY: town in Essex co., N. Y.; on Lake Champlain and the Champlain branch of the Delaware and Hudson Canal Co.'s railroad; 40 m. n. of Whitehall. It is noted for its superior iron-ore mines, from which it exports large quantities of magnetic ore; has several blast furnaces and bloomeries; and contains a graded public school, 5 churches, public library, 1 national bank (cap. $100,000), and 1 weekly newspaper. Pop. (1890) about 3,000.

PORTHOLE, *pōrt'hōl;* usually shortened to PORT: embrasure or opening in the side of a ship of war: a line of portholes enables the guns to be ranged in battery. P. denotes also a similar but smaller aperture on any vessel, for admitting light and air. The portholes for cannon are ordinarily square, of size sufficient to enable the guns to be pointed at a considerable angle. In stormy weather the ports are closed with lids, the guns being run in. When the guns are run out, and no fighting is anticipated, half ports are employed to keep the water out. There is a row of ports for each gun-deck, and by these rows the rating of the vessel is described as three-decker, two-decker, etc. Within the port, rings are fixed through which the ropes are passed for working the heavy guns.

PORT HOPE: town and port of entry, cap. of Durham co., Ontario; on main line of the Grand Trunk railroad—being the s. terminus of the Midland division of that road, and on the n. shore of Lake Ontario; 63 m. e. by n. from Toronto. There are several churches; good schools, including Trinity College School; two daily and two weekly newspapers; and three banks. There are iron foundries, plaster-mills, five flour-mills; and manufactures of woolen goods, leather, buttons, furniture, beer, and spirits. The lake view is very fine, the streets are lighted with gas, and there are many good buildings. The harbor is large and safe, and many vessels are employed in transport of lumber and agricultural products. In the summer there is a regular line of steamers to Charlotte, N. Y. Pop., including sub. district, about 6,000.

PORT HU'RON: city, port of entry, cap. of St. Clair co., Mich.; on St. Clair river near where it issues from the s. end of Lake Huron, at the mouth of the Black river; on the P. H. and Northwestern, the Grand Trunk, and the Chicago and Grand Trunk railroads; 56 m. e. of Detroit. The city does a large business in lumbering, general commerce, and ship-building; contains new U. S. custom-house and post-office (cost $250,000), co. court-house, opera-house, P. H. public and ladies' libraries, 9 churches, 3 ship-yards, and two dry-docks; and has 1 national bank (cap. $135,000), 1 state bank (cap. $100,000), 2 savings banks (cap. $125,000), and 1 private bank; and 2 daily, 5 weekly, and 3 monthly publications. During the year ending 1889, June 30, the imports of merchandise were $2,692,710, and domestic exports $10,789,445. Of the imports $2,688,946 were direct from foreign ports and $2,119,085 for immediate consumption. The entrances were 311 American and 331 foreign vessels; clearances 137 American and 318 foreign. During the year 450 vessels were enrolled and licensed and 39 built, 29 steam, 9 sailing, and 1 barge. There were (1887–8) 2,332 children enrolled in the public schools, 8 school buildings, 38 teachers, and school property worth $102,900. P. H. is connected with Sarnia, Canada, by a railroad tunnel under the St. Clair river (see ST. CLAIR RIVER RAILWAY TUNNEL). Pop. (1880) 8,883; (1890) 13,519.

PORTICI, *pŏr'tē-chē:* town of s. Italy; on the slope of Vesuvius, near Herculaneum, 4 m. s.e. from Naples. Its environs are delightful, and are dotted all over with country houses. There is a royal palace built by Charles III., and facing it, crossed by the high-road, which divides it in two, is a fortress which rises from the sea. There is a small harbor called the Granatello. Pop. (1881) town, 9,963; commune, 12,709.

PORTICO, n. *pŏr'tĭ-kō* [It. *portico,* a portico—from L. *portĭcus,* an arcade, a porch]: a walk covered by a roof supported on columns; an open space before the entrance of a building, fronted with columns; a piazza or arched pathway. A P. is usually attached to an important building, but sometimes detached as a shady walk. A P. is called tetrastyle, hexastyle, octostyle, and decastyle, according as it has four, six, eight, or ten columns in front. Por'ticoed, a. *-kōd,* furnished with a portico or porticoes.

PORTIÈRE, n. *pōr-tĭ-ār'* [Fr.]: a door-curtain.

PORTION, n. *pōr'shŭn* [F. *portion*—from L. *portĭōnem,* a share, a portion; *pars,* a part: It. *porzione*]: a part; a share; lot; final state; fate; a wife's dower or fortune. P., though not a legal term, is often used in the law of intestacy and legacies, to denote a sum of money given to a child in discharge of the obligation incumbent on a parent; and being often given on marriage it is called a marriage-portion. A parent is not bound at common law to give any portion to his children; but he often does so by will; and, in the event of his dying intestate, the law does so for him. When a testator by will leaves a legacy to a daughter, child, or person, toward whom he stands *in loco parentis,* and afterward in his lifetime gives the child a like sum of money, or even a less sum as a portion on marriage, such portion is *prima facie* presumed to be in satisfaction, or an ademption of the legacy, unless there is something in the will or settlement to rebut that presumption. See Tocher. Portion, v. to divide; to allot a share or shares. Por'tioning, imp. Portioned, pp. *pōr'shŭnd:* Adj. endowed with a portion. Por'tioner, n. *-ėr,* one who divides or assigns in shares; in *Scot.,* the proprietor of a feu or small portion of land; also a Coparcener (q.v.): see also Heirs-portioners. Por'tionist, n. *-ĭst,* one having an allowance from a foundation or college; the incumbent of a benefice having more rectors or vicars than one.—Syn. of 'portion, n.': share; parcel; division; allotment; quantity; dividend; part; dower; fate.

PORT JERVIS, *pōrt jėr'vĭs:* town in Orange co., N. Y.; on the Delaware river near the mouth of the Neversink river, at the intersection of the boundary lines of N. Y., N. J., and Penn., on the Delaware and Hudson canal and the New York Lake Erie and Western and the P. J. Monticello and New York railroads; 88 m. n.w. of New York. It is picturesquely situated; has several graded schools, 8 churches, 2 national banks (cap. $230,000), and 2 daily and 4 weekly newspapers; and contains the machine shops of the New York Lake Erie and Western railroad, and a number of manufactories. P. J. narrowly escaped destruction by an ice-gorge 1875. A handsome soldiers' monument was unveiled 1886. Pop. (1880) 8,678; (1890) about 10,000.

PORTLAND, a. *pōrt'land:* of or from the island of *Portland,* in Dorsetshire (see Portland Isle). Portland stone (see Portland Beds: Portland Stone). Portland cement (see Cement).

PORTLAND, *pŏrt'land:* town in Middlesex co., Conn.; on the Connecticut river opposite Middletown, and on the Air Line division of the New York New Haven and Hartford railroad, 14 m. s. of Hartford, 25 m. from New Haven. There are several churches, high school, weekly newspaper, national bank (cap. $150,000), and savings bank. There are some manufactures, but the principal industrial interests are in the quarries of red sandstone in which about 1,200 men are employed. This stone is largely used for fine buildings in New York and other cities. Pop. (1880) 4,157; (1890) 4,682.

PORTLAND, *pŏrt land:* city, port of entry, cap. of Cumberland co., Me., on Casco Bay, and on the Boston and Maine, the Grand Trunk, the Maine Central, the P. and Ogdensburg, and the P. and Rochester railroads; 60 m s.s.w. of Augusta, 105 m. n.e. of Boston, 292 m. s.e. of Montreal; lat. 43° 40′ n.; long. 70° 13′ w.; 3½ sq. m. It is on an attractive peninsula extending seaward 3 m. e. and w.; and has one of the best harbors on the coast—large, deep, safe, and land-locked—at whose entrance are Forts Georges, Preble, and Scammel, with batteries on P. Head. Cow Island, and Great Hog Island. The defenses all are old works, never completed, and useless against modern artillery. Vessels of 7,000 tons may proceed directly to the wharves and docks at any stage of the tide, without a pilot. The railroad system makes P. the trade centre of 129 towns with aggregate pop. 378.437, and includes the Marginal road which connects with every wharf. It is also the chief point of distribution for the agricultural products of the state, which aggregated (1889) corn 1,034,000 bushels, value $589,273; wheat 589,000 bushels, $588,689; oats 2,764,000 bushels, $1,022,804; potatoes, 7,882,000 bushels, $3,625,541; hay 1,292,791 tons, $13,897,503.

The city is laid out with considerable regularity; has sewage, gas, and electric light plants; receives its water supply from Sebago Lake, 17 m. distant; and is substantially built. The total liability of the city was (1890, Mar. 8) $3,022,500. available assets $318,742, net debt $2,703,758; real estate valuation $23,184,400; personal $12,427,590; tax rate $1.97 on $100. 1890, Sep., there were 7 national banks (cap. $3,550,000), 2 state banks (cap. $200,000), 2 savings banks (surplus $575,000), 5 private banks, and 1 loan and trust company. There were 25 periodicals, of which 3 were published daily, 10 weekly, 9 monthly, and 3 quarterly. The principal buildings in the city are the City Hall, built 1859 of olive-colored freestone, an elegant building with an attractive dome 160 ft. high and a hall with a seating capacity of nearly 3,000, cost $279,000; U. S. Post-office of white Vt. marble, with portico resting on Corinthian columns; U. S. Custom-house; U. S. Marine Hospital; Maine General Hospital; Home for Aged Women; Female Orphan Asylum; Mechanics' Hall, of granite and brick; Library Building, erected by James P. Baxter, for joint use of the P. Public Library and the Me. Historical Soc.; Public High School; P. Theatre; Cathedral of the Immaculate Conception (Rom. Cath.); St. Luke's Cathedral

(Prot. Episc.); Me. Mutual Life Insurance Building; and the Payson Memorial (Congl.), First Bapt., First Parish, (Meth. Episc.), St. Steven's and St. Paul's (Prot. Episc.), and the State street, Park street, Pine street, and St. Dominic's (Rom. Cath.) churches. The main thoroughfare is Congress st., which extends along the ridge of the peninsula from Munjoy Hill (e.) to Bramhall's Hill (w.), and contains the principal business block; and the handsome residence streets are State, Deering, High, Cumberland, Grant, and Sherman.

In the school-year 1887–8 there were 11,834 children of school-age, of whom 6,340 were enrolled in the public schools and 4,630 were in average daily attendance, and 1,300 were enrolled in private and parochial schools. There were 18 public school buildings, with 6,289 seating capacity; total value of school property $419,000, 157 teachers; receipts, from state $20,421, city $97,516, total $117,937; expenditures permanent $25,011, salary of teachers $69,792, administration $2,000, incidentals $21,134, total $117,937. There were also one high school with 13 teachers and 418 students; public practice (normal) school; Caswell School for young ladies; P. School for Medical Instruction; P. School for the Deaf; and State Reform School with three instructors, 138 inmates, $25,000 receipts, and $26,000 expenditures. The libraries were: P. Public Library (opened 1867), 30,584 vols., $4,192 income; Me. Historical Soc. (1822), 10,000 vols.; Mechanics' (1820), 5,000 vols.; Greenleaf Law (1867), 2,802 vols.; P. Soc. of Nat. History (1843), 1,391 vols.; and 1 circulating (pay) library (1878), 3,600 volumes.

The commerce of P. is facilitated by the railroads, daily steamboat connection with Boston, semi-weekly line of steamers to New York, and two lines of weekly European steamers. During the fiscal year ending 1889, June 30, imports were $906,291; domestic exports $2,870,247; foreign exports $370,116. Of the total imports $721,916 in value were dutiable. $184,375 non-dutiable, $895,859 imported direct from foreign countries, $465,419 entered for immediate consumption, $440,872 entered for warehouse, $110,388 brought in land vehicles, $379,892 in American sailing vessels, and $174,122 in foreign steam and $241,889 in foreign sailing vessels. The entrances were: American vessels 35, tons 14,423; foreign vessels 153, tons 96,576—total vessels 188, tons 110,999; clearances: American vessels 158, tons 72,278; foreign vessels 170, tons 106,942—total vessels 328, tons 179,220. The entrances included 31 foreign steamships of 68,952 tons, and the clearances 30 foreign steamships of 68,661 tons. There were 301 U. S. vessels of 83,699 tons registered, enrolled, and licensed at the P. custom-house, of which 265 of 73,193 tons were sailing vessels and 36 of 10,506 tons steam vessels.

P. had (1880) 302 manufacturing establishments, using $4,243,225 capital, and yielding $9,832,931 products. In 1890 the various industries had $4,659,375 capital, paid $1,547,375 wages to more than 9,000 hands, received $9,569,523 for products; and comprised locomotive and car works, rolling-mills, 5 tanneries, 15 boot and shoe factories, 13 foundries and machine shops, 16 canning establishments, 18 carriage factories, 25 wood-working plants, 2 lead and color works, 1 oil refinery, 3 drain-pipe factories, and 85 other manufactories.

The site of P. was known among the Indians as Machigonne. An English settlement was made on the peninsula 1632, which was destroyed by the Indians 1676, as was its successor by the French and Indians 1690. In 1775 the village, then known as Falmouth, was bombarded and destroyed by a British fleet; 1786 was incorporated under its present name; and 1832 received a city charter. Nearly one-third of the city was destroyed by fire 1866, causing a loss of property valued at $10,000,000. Pop. (1870) 31,413; (1880) 33,810; (1890) 36,608.

PORTLAND: city, port of entry, cap. of Multnomah co., Or.; on the w. bank of the Willamette river, 12 m. above its junction with the Columbia, and on the Union Pacific, the Northern Pacific, and the Oregon and California railroads; 53 m. n.e. of Salem, 122 m. by water from the Pacific Ocean, 530 m. by water n. of San Francisco; lat 45° 30′ n., long. 122° 27′ w.; 8 sq. m. The surface has a gradual ascent, providing natural drainage without impeding street travel. There are about 2 m. of excellent wharfage along the river front; and two bridges and five ferries connect the city with Albina and E. Portland, on the opposite side of the river. The business centre comprises several streets, parallel with the river, all paved with granite blocks. Front st. is occupied almost exclusively by wholesale commercial houses, and First st. by retail. The residence portion begins about 6 streets from the business centre, and extends a mile back from the river, where the surface reaches a height of 1,000 ft. At this point Mts. Hood, Rainier, Adams, St. Helens, and Jefferson, all perpetually snow-capped, are discerned readily under favorable conditions. For a city of its age, P. is built in a remarkably substantial manner. Its location at the head of direct navigation from the ocean, and at the terminus of two great railroad systems, gives it exceptional commercial importance and attracts to it vast wealth. It has water-works of its own; gas and arc and incandescent light plants; 35 m. of water mains; paid fire dept.; 4 lines of street (horse) railroad, 3 electric motor roads, and 1 cable road extending beyond the heights; 49 churches; and 48 hotels, many of high grade and magnificence. The notable buildings comprise U. S. Post-office with Custom-house and U. S. courts for Or.; Northern Pacific Industrial Exposition Building; High School; Free Public Library; Opera-house; 1st Regt. Armory; 3 large hospitals; 2 medical colleges; Masonic Temple; and several church and educational buildings.

In 1890 there were 6 national banks (cap. $1,250,000), 3 state banks (cap. $585,000), 1 private bank (cap. $250,000), 1 trust company (cap. $150,000), branch of the Bank of Brit. Columbia (home cap. $3,000,000), branch of the London and San Francisco Bank (home cap. $2,100,000), and the Oregon and Washington Savings Bank. There were also 37 periodicals, of which 5 were daily, 16 weekly, 11 semi-monthly, and 5 monthly publications. The net public debt was $100,000; aggregate valuation of real and personal property $201,000,000, tax rate $1.50 on $100.

The city has direct steamship communication from its wharves to San Francisco and to points on Puget Sound, and the Alaska coast; and it ships largely, especially of manufactures of lumber, to China, Japan, and S. America. Its shipments by rail of products and manufactures to Brit. Columbia and e. and s.w. cities of the United States are large and increasing annually. During the fiscal year ending 1889, June 30, the imports of merchandise at P. as the port of entry of the Willamette customs district, were $1,262,863; domestic exports $4,858,592; foreign exports $925. Of total imports $1,222,931 in value were dutiable; $39,932 non-dutiable; $1,139,839 were direct from foreign countries; $123,024 through exterior ports without appraisement; $1,191,751 were entered for immediate consumption and $71,112 for warehouse; $2,301 were brought in land vehicles, $125,398 in American steam and $99,156 in American sailing vessels, and $214,313 in foreign steam and $821,695 in foreign sailing vessels. The entrances were 7 American vessels of 10,063 tons and 35 foreign vessels of 29,762 tons—total vessels 42, tons 39,825; and the clearances were 28 American vessels of 32,789 tons and 96 foreign vessels of 105,058 tons—total vessels 124, tons 137,847. Of the entrances 5 of 7,352 tons were American steamers and 14 of 7,854 foreign steamers; and of the clearances 17 of 14,560 tons were American steamers and 14 of 7,854 tons were foreign steamers. There were 98 vessels of 42,707·14 tons registered, enrolled, and licensed in the custom house; of which 6 of 3,216·41 tons were sailing vessels, 84 of 33,517·75 tons steam vessels, and 8 of 5,972·98 tons barges. During the year 10 steam vessels of 2,225 gross and 1,758 net tons were built.

The manufacturing and commercial establishments comprised (1889) 23 with capital of more than $1,000,000 each; 18 with capital $750,000—$1,000,000; 9 with $500,000—$750,000; 13 with $300,000—$500,000; 12 with $200,000—$300,000; 17 with $125,000—$200,000; and 29 with $75,000—$125,000. P. is the principal point on the Pacific coast where pig-iron is manufactured; high grade and apparently exhaustless iron beds extend along the Columbia river from a point 40 m. n. of the city to another 10 m. s. The chief manufactures are flour and feed, pig-iron, iron pipe, wrought and cast iron work, stoves, lumber, woolen cloth, cordage, furniture, carriages and wagons, decorated glass, paint and oil, paper, jewellery, sashes, doors, blinds, lime, cement, pottery, oil clothing, and street cars. There were (1889) 185 manufacturing establishments, which employed 7,862 hands, and yielded products valued at $20,183,044. The wholesale trade aggregated $15,000,000, and the combined wholesale and jobbing trades $115,000,000.

In the school-year 1887–8 there were 7,190 children of school age enrolled in the public schools, of whom 4,289 were in average daily attendance; and 730 enrolled in private and parochial schools. There were 84 teachers; 7 public school buildings; seating capacity 3,600; value of school property $395,000; receipts, state $6,417, city $47,644, co. and other taxes $53,716, tuition fees $1,506, all other sources $13,260—total $122,543, amount available for the year $131,842; expenditures, permanent improvements $19,818, teachers' salaries $70,520, administration $2,000, incidentals $21,699—total $114,037, paid debt $10,000, balance $7,805. The high school had 8 teachers and 303 students. There were 2 private secondary schools for boys; the Bishop Scott Grammar School (Prot. Episc.), founded 1870, with 14 instructors, 120 students, and grounds and buildings valued at $100,000, and St. Michael's College (Rom. Cath.), 1871, with 4 instructors, 175 students, and grounds and buildings $15,000; and 1 secondary school for both sexes, the Independent German School (non-sect.), 1869. St. Helen's Hall (Prot. Episc.), 1869, provided superior instruction for women, and had 13 instructors and 132 students. The law school of the Univ. of Or., 1884, and the medical dept. of Willamette Univ., 1864, are also in P. The high school and each of the public schools have libraries of their own, and the P. Free Public, with more than 16,000 vols., has been located recently in a $100,000 building. In 1890 there were 12 school buildings, value of school property nearly $700,000.

The site of P. was staked off in a pine forest by A. L. Lovejoy and A. M. Overton 1843; the first log cabin was built 1844; 16 blocks of land bordering on the river were surveyed and plotted 1845; the first business building was erected the same year; the town, named from the city in Me., was incorporated 1851; and the city suffered severely by a fire 1873, Aug. 2.—Pop. (1860) 2,874; (1870) 8,293; (1880) 17,577; (1890) 47,294.

PORT'LAND: post-town and parish in St. John co., N. B.; on St. John harbor and river, adjacent to the city of St. John (q.v.), but under separate govt. A suspension bridge connects it with Lancaster. The town has independent gas and water works, street railroads, and several schools and churches. There are large steam saw-mills, iron foundries, and ship-yards, and near by are rich mines of plumbago and sulphate of barytes. The town has considerable foreign and domestic trade through St. John. Pop. (1881) 15,226.

PORT'LAND BEDS: division of the Upper Oolites (q.v.), occurring in England between the Purbeck Beds and the Kimmeridge Clay; and so named because the rocks of the group form the promontory of the Isle of Portland. They consist of beds of hard oolitic limestone and freestone, interstratified with clays, and resting on light-colored sands, which contain marine fossils. The corals found in the sands are often converted into flints, the original structure being beautifully preserved in the hard silex. The beds may be traced from the Isle of Portland, capping the oolitic hills as far as Oxfordshire. The fossils are chiefly mollusca and fish, with a few reptiles.

PORT'LAND ISLE: rocky peninsula projecting into the English Channel from the shore of Dorsetshire, 17 m. w.s.w. of St. Alban's Head. Its appearance suggests the shape of a *beak*, whence it is called also the *Bill of Portland*. It is 9 m. in circumference, is composed of oolitic limestone, and slopes southward, with an even surface from the height of 490 ft. to 30 ft. above sea-level. Its sides are extremely rugged, and are worn into fantastic caverns by the furious action of the waves. The peninsula is supposed to have been formerly an island, but for ages it has been connected with the mainland by *Chesil Bank*, an extraordinary ridge of loose shingle, which, after extending n.w. about 10 m. in a straight line, close to the shore, joins the mainland at Abbotsbury. S.w. winds prevail on this part of the coast; and during their continuance the long ridge of Chesil Bank is lashed by a frightful sea, and is the scene of frequent shipwrecks.—A long narrow inlet of the sea, called the *Fleet*, extends between Chesil Bank and the shore, and is the haunt of numerous wild-fowl.—*Portland Castle*, in the n. of the isle, is a ponderous building, erected 1520 by Henry VIII. as a defense for this part of the coast. The peninsula furnishes the famous Portland Stone (q.v.).—Portland Breakwater, built of stones obtained on the island (see BREAKWATER), has provided a secure harbor for hundreds of the largest ships; connected with it are a naval station, harbor of refuge, and batteries.—*Pennsylvania Castle*, in a most romantic district on the e. coast, was built by John Penn, grandson of the founder of Pennsylvania.—*Rufus Castle*, commonly called *Bow and Arrow Castle*, also on the e. coast, now a ruin, is generally said to have been built by William Rufus. On Portland Bill, the s. extremity of the island, are two light-houses, one 130 and the other 197 ft. above sea-level.—Between the s. point and the *Shambles*, three m. s.e., a dangerous surf, well known as the *Race of Portland*, is raised by the rush of the impetuous tides.—The convict prison, near the e. coast, erected 1848, accommodates more than 1,500 convicts, besides the officers, and is maintained at an annual cost of more than £50,000, or at the rate of £33 per prisoner.—The inhabitants of the island long remained a peculiar people, intermarrying, and preserving, generation after generation, many curious customs of their ancestors. The island itself is remarkable chiefly for its abundant supply of excellent spring water, for its building-stone, and for its breed of sheep, the fine-flavored flesh of which is known as Portland mutton. Pop. of the parish of P. (1871) 9,907; (1881) 10,046.

PORT'LAND SA'GO: see ARUM.

PORTLAND STONE: English building stone, of which many of the principal buildings of London, including St. Paul's Cathedral, Somerset House, and many of the churches are constructed; the oolitic limestone of Dorsetshire, constituting geologically the *Portland and Purbeck Beds*. The quarries are chiefly in the islands of Portland and Purbeck, and in the Vale of Wardour. The quantity raised is very large. During the heavier works at the Portland Breakwater (see BREAKWATER) 730,000 tons per annum were required for that structure alone, and about 30,000 to 40,000 tons are sent annually to London and other places. There are three different qualities of the stone in the same quarry: the uppermost contains numerous fossils, and is of coarse grain; it is used chiefly for rough work, such as foundations: it is called Roach by the quarrymen. The middle bed is much broken, and is called the *rubble* or *rubbly bed*, and is of little value; and the lower one is fine, dull white, and compact, and is called the *whit*, or *best bed*. This last is used for fine building purposes. Analysis of this stone by Prof. Daniell shows:

Silica,	1·20
Calcium Carbonate,	95·16
Magnesium Carbonate,	1·20
Iron and Aluminium Oxides,	0·50
Water and loss,	1·94

Also there is often a trace of bitumen.

The name Portland Stone is in the vicinity of New York often applied to a sandstone coming from quarries at Portland, Middlesex co., Conn., on the Connecticut river near Middletown, Conn. It is a red sandstone, and many buildings in the city of New York have been constructed with this material for their fronts.

PORTLAND VASE: one of the most valued relics of antiquity; beautiful cinerary urn, of transparent dark-blue glass, found about the middle of the 16th c. in a marble sarcophagus near Rome. It was at first deposited in the Barberini Palace at Rome (hence it was often called the Barberini Vase); it then became (1770) the property, by purchase, of Sir William Hamilton (q.v.), from whose possession it passed into that of the Duchess of Portland. In 1810 the Duke of Portland, one of the trustees of the Brit. Museum, allowed it to be placed in that institution, retaining his right over it as his property. In 1845 a miscreant, apparently from an insane love of mischief, or ambition for notoriety, dashed this valuable relic to pieces with a stone. Owing to the defective state of the law, only a slight punishment could be inflicted; but an act was immediately passed, making such an offense punishable with imprisonment for two years, and one, two, or three public or private whippings. The pieces of the fractured vase were carefully gathered up, and afterward united in a very complete manner; and thus repaired, it remains in the Museum, but is not shown to the public. A small number of copies of the P. V., made many years ago by Wedgwood, were sold at 25 guineas each. (For further details, see GLASS.)

PORTLAW, *pōrt-law':* small manufacturing town of co. Waterford, Munster, Ireland; about 10 m. w.n.w. of Waterford. P. has risen from an insignificant village into a small town of great activity in manufactures, through the introduction of cotton manufacture. Pop. (1881) 1,801, mostly Roman Catholics.

PORT LOUIS, *pōrt lô'ĭs*, F. *pōr lô-ē':* city, cap. and principal port of the British colony of Mauritius; on an inlet on the n.w. coast, inclosed by a ring of lofty hills. Its streets, though narrow, are straight, furnished with footpaths, and macadamized. Drainage is deficient, owing to the small amount of tide in the harbor. P. L. contains a number of public buildings, among which are a theatre, library, hospital, and botanic garden. Its harbor is capacious, but is not quite safe except during the fine season. For imports and exports of the colony, which mainly pass through P. L., see MAURITIUS. Pop. of port (1880) estimated 70,000.

PORTLY, PORTLINESS: see under PORT 2.

PORT MAHON, *pōrt mâ-hōn'* (anc. *Portus Magonis*): city, cap. of the island of Minorca (q.v.); beautifully situated on a deep and narrow inlet in the s.e. of the island. Its harbor, sufficiently spacious to accommodate a large fleet of men-of-war, is one of the finest in the Mediterranean, and is protected by three forts. The town is moderately well built. The military gov. and the bp. of the island reside here. The govt. buildings were constructed when Minorca was English. Pop. (1878) 15,842.

PORTMANTEAU, n. *pōrt-măn'tō* [F. *porte-manteau*—from *porter*, to carry; *manteau*, a cloak—from mid. L. *mantum*, a short cloak]: a leather case or trunk for clothes, etc., in travelling; *formerly*, a leather case attached to a saddle behind the rider.

PORTO ALEGRE, *pōr'tō â-lā'grā:* town of Brazil, cap. of the province of Rio Grande do Sul; at the n.w. extremity of the Lake of Patos, by which it communicates with the sea. It was founded 1743, is well built, has a cathedral, town-hall, hospitals, and a fine theatre; and the shops are among the handsomest in the republic. It is provided with wharfs, and has considerable trade. Pop. about 25,000.

PORTOBELLO, *pōr'tō bĕl'ō:* parliamentary burgh and watering-place in Scotland; in a plain on the s. bank of the Firth of Forth, in the county of Edinburgh, 3 m. e. of the city of Edinburgh by the North British railway. It is a favorite resort for sea-bathing, and summer quarters during the season. A marine promenade, a mile in length, skirts the shore; and there is an elegant iron pier, 1,250 ft. long, with seats for 2,000 persons, and a spacious saloon for the use of visitors. P. has manufactures of pottery and earthenware, bottles, brick, paper, etc. The town is named from the first house built here about the time of the seizure of the town of Porto Bello, in the Isthmus of Panama. Pop. (1881) 6,793; and in summer 7,000 or 8,000.

POR'TO BELLO (Sp. Puerto Bello, *pwĕr'tō bĕl'yō*): small decayed seaport town of the United States of Colombia, on the n. shore of the Isthmus of Panama, 40 m. n. of the town of Panama. It is surrounded by mountains, and has an excellent harbor. It is very unhealthful, and has fallen into decay since 1739, when it was stormed by Admiral Vernon, during the war between England and Spain. Pop. 3,500.

POR'TO FERRA'JO: see Elba.

PORTO MAGGIORE, *pōr'tō mâd-jō'rā:* town in the province of Ferrara, Italy, 22 m. from the Adriatic, though it is said to have anciently been a seaport of the Adriatic. It is so situated among the lagoons of Comacchio as to form an island reached by bridges. Owing to its situation, the inhabitants suffer severely from malaria; but it has extensive trade in cattle and agricultural products. Pop. of commune 15,150.

PORTO MAURIZIO, *pōr'tō mow-rĭ'tsĭ-ō:* seaport town of n. Italy, cap. of a province on the Gulf of Genoa, 58 m. s.w. of Genoa. (Province, 467 sq. m.; pop. (1880) 132,218.) The town stands on a high promontory, projecting boldly into the sea. The harbor, defended by a mole, is generally crowded with the picturesque coasting-vessels of the Mediterranean. There is extensive trade in olive-oil and agricultural produce. Pop 7,000.

PORTO NOVO, *pōr'tō nō'vō* (native name *Parangipetta*): town in the Madras Presidency of India; on the Coromandel coast, lat. 11° 31′ n., long. 79° 51′ e. Both the Danes and the Dutch had formerly a factory here. The place is famous for the batte here 1781, July 1, when Sir Eyre Coote defeated Hyder Ali. The British force consisted of only 7,878 men, including artillery; Hyder's army numbered more than 60,000. Coote was retiring before Hyder. After leaving P. N., he had advanced only a few miles along the seashore, when he found his path intercepted by the enemy's batteries, the sea confining him on the right, and a range of sand-hills on the left. The British army made two assaults; in one, they carried the batteries; in the other, they took advantage of an opening in the sand-hills, which Hyder had neglected to guard, and came suddenly on the enemy's flank. A schooner of war meantime standing in close, poured her broadsides of small guns into the enemy, whose rout was complete. P. N. has an iron foundry, which has supplied much material for the Madras railways. Pop. about 7,200.

PORTO RICO, *pōr'tō rē'kō* (Sp. Puerto Rico, *pwĕr'tō rē'kō*): island in the W. Indies, belonging to Spain; one of the Greater Antilles. It lies e. of Hayti or San Domingo; lat. 17° 55′—18° 30′ n., long. 65° 39′—67°11′ w. It is in size somewhat less than Jamaica, being fully 100 m. e. to w., 40 m. n. to s., and closely resembling a rectangle in shape; 3,600 sq. m. The island is traversed from e. to w. by a range of mountains, 1,500 ft. in average height, though rising in one peak 3,878 ft. above sea-level. From the base of the mountains, rich alluvial tracts extend to the sea, and there are numerous well-wooded and abundantly watered valleys. The soil is remarkably fertile. The principal crops are sugar, coffee, and tobacco of the finest quality, and cotton remarkable for length of fibre, tenacity, and whiteness. Cattle and sheep are extensively reared, of a quality superior to any others in the W. Indies. The imports consist of cotton, woolen, linen, silk, and embroidered goods, metals, hardware, and ale, porter, fruits, wines, etc. The exports are sugar, tobacco, coffee, cotton, molasses, rum, hides, and cattle. The chief ports are San Juan, commonly called Puerto Rico, in the n.e., Ponce in the s.w., and Mayaguez in the w. P. R. is one of the coolest and most healthful places in the W. Indies. The value of the annual exports is about $10,000,000; of the imports $7,500,000. There were exported (1883) 78,482 tons of sugar and molasses, and 16,801 tons of coffee. The trade is mainly with Britain, but owing to duties and port charges, it is carried on in Spanish bottoms.

The frequent changes in the executive govt. of P. R. do not appear to affect its commercial stability. The commerce of the island is almost wholly in the hands of foreigners and Spaniards from the Peninsula. The Preliminary Act of Emancipation, which came into operation at the beginning of 1871, decreased the number of slaves by 100,000, leaving about 20,000 still in slavery. The slave-trade was already extinct; and in 1873 slavery was entirely swept away. There is a unanimous feeling against any immigration of laborers, whether Chinese, coolies, or others. A deep-sea cable now unites P. R. with the other Antilles, the United States, and Europe; railways, irrigation, drainage, etc., are among things proposed. It is remarkable that, notwithstanding the fertility and healthfulness of P. R. and the great luxuriance of its vegetation, there are scarcely any flowers, birds, or wild animals. Pop. (1880) 754,300; of whom nearly 430,000 were white.

PORTO SANTO, *pōr'tō sân'tō:* second in size and importance of the Madeira Islands, about 420 m. w. of Morocco, 25 m. n.e. of the island of Madeira. It is 6 to 8 m. in length, 2 to 3 in breadth, and not more than 500 ft. above sea-level, though the surface is rugged and hilly. It is of volcanic origin, and almost destitute of trees. The soil is poor: the only productions are maize, barley, vegetables, a few fruits, and a poor kind of wine. Its cap., Porto Santo, on a handsome bay with a good harbor, protected by a battery, is frequented by vessels going to and from the Cape of Good Hope. Pop. of island about 1,600 of whom 300 or 400 live in the town.

PORT PAT'RICK: burgh of barony and small seaport of Scotland, in Wigtown, 8 m. s.w. of Stranraer, with which it is connected by rail. It is the nearest point to Ireland, distant 21½ m. Pop. (1871) 685; (1881) 591.

PORT PHIL'LIP: bay in Australia: see MELBOURNE.

PORTRAIT, n. *pōr'trāt* [F. *portrait*, a portrait—from *portraire*, to draw, to delineate; mid. L. *protrahĕrĕ*, to paint—from L. *pro*, forward; *trahĕrĕ*, to draw forth or drag]: the representation of a person's face, with a part or the whole of the body, in water or oil colors, or traced with a pencil or crayon, and taken from life; any vivid representation in words, as of a person. PORTRAITURE, n. *pōr'trā-tūr*, *formerly*, a portrait; the art or practice of drawing portraits, or of vividly describing persons in words. PORTRAY, v. *pōr-trā'*, to paint or draw the resemblance of anything; to describe vividly in words; in *OE.*, to adorn with pictures. PORTRAY'ING, imp. PORTRAYED', pp. *-trād'*. PORTRAY'ER, n. *-trā'ėr*, one who paints or draws to the life. PORTRAY'AL, n. *-ăl*, the act of portraying. POR'TRAITIST, n. *-trāt-ĭst*, one who paints portraits, or produces them by photography. PORTRAIT-PAINTER, one whose occupation or profession is to paint portraits.

PORTREE': see SKYE.

PORTREEVE, n. *pōrt'rēv*, or PORT'GREVE, n. *-grēv* [AS. *port*, a harbor; *gerefa*, a count or earl: L. *portus*, a harbor]: principal magistrate in a port or maritime town. This was the early name of the officer afterward called mayor in London and elsewhere.

PORT ROYAL-DES-CHAMPS, *pōr rwâ-yâl'-dā-shâng;* often abbreviated to PORT ROYAL: convent of Cistercian nuns, near Versailles, which obtained much celebrity during the 17th c. It was founded for nuns by a member of the family of Montmorenci, in the early part of the 13th c.; and soon after its establishment, obtained from the pope the privilege of receiving lay persons, who, without taking monastic vows, desired to live in religious retirement. This portion of the P. R. institute in later times became of great importance. The discipline of the convent having been much relaxed in the 15th and 16th c., one of its worst abuses—that of appointing the superior, not on account of fitness, but from considerations of family or other worldly or political motives—became in the end the occasion of its complete reformation. Angelique Arnauld (q.v.), sister of the celebrated brothers Arnauld, was appointed, when a mere child, coadjutrix of the abbess; and on the death of the abbess, though then in only her 11th year, Angelique succeeded to the office. As Mêre Angelique advanced in years, she felt moved, though still very young, by a profound sense of her responsibilities; and undertook a complete and rigid reformation of the community, which she carried out in all its details—e.g., strict observance of religious poverty, abstinence from meat, complete seclusion, and the most severe ascetic exercises. The community was removed to Paris 1626, and 1633 to a new convent thenceforward call Port Royal-de-Paris; and from this time the old establishment of P. R.-des-Champs was exclusively devoted to the use of a lay community, in accordance with the original papal privilege. This community quickly became famous, numbering among its inmates some of the most distinguished scholars of that age, Antony Arnauld, Le

Maistre, Antony and Louis Isaac le Maistre de Sacy, Nicole, Lancelot, Sericourt, and several others. Their rule of life was most austere, rising at 3 A.M., devoting many hours to prayer and spiritual reading and instruction, and a portion of the day to manual labor. One of their most important public services was the establishment of a school, for which they prepared the well-known educational books known under the name of Port Royal, the Greek and Latin Grammars, General Grammar, Geometry, Art of Thinking, etc. This school was for a time transferred to Paris, a portion of the nuns being sent back to P. R.-des-Champs; but eventually it was established at an out-farm of the latter place, called Les Granges.

P. R., however, is even more known in history through its relations with the Jansenist controversy. For the nature and origin of these relations, see **Jansen**. It remains to relate the later fortunes of P. R. and its members, as affected by the proceedings of the authorities civil or ecclesiastical. The nuns of P. R. having refused to subscribe the formulary condemning the Five Propositions, a royal order was issued 1660 for suppression of the school, and removal of the borders of P. R.-des-Champs; and at length the abbess, and several other nuns, were arrested, and confined as prisoners in other monasteries. After the 'Peace of Clement IX.,' they were permitted to return; but the two communities, P. R.-des-Champs and P. R.-de-Paris, were placed under separate government. This led to many disputes, and to a perpetuation in P. R.-des-Champs of the Jansenist spirit and tenets; and when the final steps for the repression of that party were taken about 1707, a formal bull was issued by Pope Clement XI. for suppression of that convent, and transfer of its property to P. R.-de-Paris. The nuns, accordingly, were finally dispersed and distributed over convents of different orders throughout France. The property of the convent and church were transferred to the Paris house, and all the buildings of P. R.-des-Champs were levelled to the ground, by order of the king. See Sainte-Beuve's exhaustive history, *Port Royal* (4th ed. 6 vols. 1878).

PORT SAID′: see SUEZ CANAL.

PORTSEA ISLAND, *pŏrt'sē:* small island on the s. cost of Hampshire, England; having on its w. side Portsmouth Harbor, on its s.e. side Langston Harbor, on its e. side Chichester Harbor, and separated from the mainland on the n. by a narrow channel, crossed by several bridges. It is four m. long, two to three m. broad, and contains the important towns of Portsea and Portsmouth (q.v.).

PORTSMOUTH, *pōrts'mŭth:* city, port of entry, cap. of Rockingham co., N. H.; on the Piscataqua river and the Boston and Maine and the Concord railroads; 3 m. from the Atlantic Ocean, 54 m. n.e. of Boston; only seaport in N. H. It is on a peninsula formed by the river; has a capacious deep (35–75 ft.) and accessible harbor, with entrance between the mainland and Great Island, and capable of accommodating 2,000 vessels; is defended by earthworks on Gerrish Island and Jerry's Point and Forts Constitution and McClary in the harbor; and is connected by bridges with Kittery, Me., and New Castle, on Grand Island. The city was early noted for its commerce, navy-yard, and ship-building. During the year ending 1889, June 30, the imports of merchandise were $29,653, of which $330 were dutiable and $29,323 non-dutiable; $100 imported through exterior ports without appraisement; $1,574 brought in American sailing vessels, $151 in foreign steam vessels, and $27,928 in foreign sailing vessels. The entrances were 1 American vessel of 374 tons and 40 foreign vessels of 7,373 tons, and the clearances 24 American vessels of 6,712 tons and 38 foreign vessels of 6,273 tons. There are 63 vessels of 10,057·83 tons registered, enrolled, and licensed at the custom-house, 8 steam and 55 sailing vessels. The U. S. navy-yard is officially known as the P. navy-yard, though on two islands on the opposite side of the river, belonging to Kittery, Me. Among noted war vessels built here were the *North America* and *Falkland*, both built for the British govt. before the revolutionary war; and the *Ranger*, completed 1777 for the continental congress, the first war vessel to carry the stars and stripes. P. had (1887–8) 1,608 children of school age, 1,595 enrolled in the public schools, 1,161 in average daily attendance, 12 public school buildings, 45 teachers, school property valued at $39,300, receipts $24,064, expenditures $26,124, 1 private secondary school for girls, and 1 acad. for both sexes. There were 2 libraries, P. Athenæum (founded 1817) with 15,452 vols. and valuable cabinets, and P. Free Public (1881) with 7,456 vols. 1890, Sep., there were 4 national banks (cap. $800,000), 2 savings banks, and 1 trust and guarantee company, and 3 daily and 3 weekly newspapers. The site was settled by the English 1623, the township received present name 1653, and the city was chartered 1849. P. has an appearance of antiquity rare in America; its beautifully shaded streets, some of them lined with fine mansions of the olden time, make the place attractive. Pop. (1870) 9,211; (1880) 9,690; (1890) 9,827.

PORTS'MOUTH: city, cap. of Scioto co., O.; at the junction of the Ohio and Scioto rivers, on the Ohio and Erie canal and the Cincinnati Washington and Baltimore, the Ohio and Northwestern, and the Scioto Valley railroads; 115 m. s. by e. of Cincinnati. It is the principal shipping-point for the great mineral regions of s. O. and n.e. Ky., and for the rich agricultural valley of the Scioto, and has two rolling-mills, 3 foundries, several saw and planing mills, car works, and manufactories of machinery, engines, boilers, paper, nails, boots and shoes, furniture, and stoves. The city is on a plain nearly surrounded by hills; is lighted by gas and electricity; obtains its water from the Ohio river by the Holly system; and has a co. court-house, seminary for young ladies, 18 churches, opera-house, Masonic Temple, Free Public Library (founded 1879) with about 10,000 vols., and 1 daily and 5 weekly newspapers. P. had (1887–8) 4,310 children of school age, 2,111 enrolled in public schools, 1,479 in average daily attendance, 6 public school buildings, 42 teachers, school property valued at $180,000, receipts $28,364, available for the year $42,123, expenditures $31,030, and balance $11,093. There were (1890, Sep.) 3 national banks (cap. $475,000) and 1 savings bank (cap. $50,000). Pop. (1870) 10,592; (1880) 11,321; (1890) 12,387.

PORTS'MOUTH: city, port of entry, cap. of Norfolk co., Va.; on the Elizabeth river and the Atlantic and Danville and the Seaboard and Roanoke railroads; opposite Norfolk, 104 m. s.e. of Richmond by railroad, 150 m. by water; 8 m. from Hampton Roads. It has a level slightly elevated site on the left bank of the river, which here attains a width of two-thirds of a mile, and forms one of the best harbors on the Atlantic coast, accessible at all times to the largest vessels. The famous Gosport navy-yard, with its costly dry-dock and U. S. naval hospital, is at the s. extremity of the city. A ferry connects the city with Norfolk and regular steamer lines with Boston, Providence, New York, Philadelphia, Baltimore, Washington, Richmond, and other s. parts. There are 13 churches, 12 public schools, 2 academies, two state banks (cap. $151,500), and 1 daily and 3 weekly newspapers. The shops of the Seaboard and Roanoke railroad are here. During the year ending 1890, June 30, the imports of merchandise were $89,042 and the domestic exports $14,247,097. Of the imports $57,129 were dutiable and $31,913 non-dutiable; $88,413 imported direct from foreign countries and $87,393 entered for immediate consumption and $1,649 for warehouse; $5,649 brought in American sailing vessels and $83,056 in foreign steam vessels. The entrances were 7 American vessels of 3,106 tons and 63 foreign vessels of 81,744 tons; clearances 32 American vessels of 12,386 tons, and 77 foreign vessels of 86,297 tons. There were 428 vessels of 16,700·71 tons registered, enrolled, and licensed in the custom-house, 67 steam, 360 sailing, and 1 barge; and 2 steam and 2 sailing-vessels were built during the year. The shipments comprise cotton, lumber, naval stores, oak staves, pig-iron, and early vegetables. Pop. (1880) 11,390; (1890) 12,345.

PORTS'MOUTH: important seaport, market-town, and municipal and parliamentary borough, containing the chief naval arsenal of Great Britain; in s. Hampshire, on the s.w. shore of Portsea Island (q.v.), at the entrance to Portsmouth Harbor, opposite the town of Gosport, with which it communicates by a steam-bridge. It is 74 m. s.w. of London by the London and South-western railway. Besides the parish of P., the limits of the municipal and parliamentary borough, which are coextensive, include also the parish and town of Portsea, and the out-wards Landport and Southsea. Pop. of the borough (1871), 113,569; (1881) 127,953.

P. is for the most part a mean-looking, dirty town; but has the most complete fortifications in Britain. These comprise, on the landward side, the outer line of the Portsdown forts and the Hilsea lines; to seaward, the Spithead Forts (q.v.). The bastioned ramparts, which formerly encircled both P. and Gosport, and were so imposing in appearance, have recently been removed as useless. Southsea, outside the walls skirting Southsea Common, is rapidly increasing and is now a fashionable watering-place. In the town proper there are few objects of note. From the ramparts and batteries pleasing views may be had of the harbor, the roadstead of Spithead, and the Isle of Wight. Improvements have recently been made, including the opening of the Victoria Park 1878. Among the few notable buildings are the Church of St. Thomas, which dates partly from the 12th c., and contains a ghastly cenotaph in memory of the murdered Duke of Buckingham (see below). In front of the Garrison Chapel is buried the brave Sir Charles James Napier (q.v.), who died in this neighborhood 1853. The dockyard of P , in the dist. of Portsea, has, by vast works, been recently increased in area to 293 acres, at a cost of £2,500,000. Of this immense naval establishment, the most noteworthy, if not the most recent, features are the mast and rope houses, hemp-stores, rigging-stores, sail-loft, and the dry-docks, spacious enough to admit the largest vessels, and with every facility for their speedy repair. The 12 docks vary from 22 to 36 ft. deep, lined with solid masonry, and roofed over, and closed by lock-gates. Of the various building-slips, one of them, roofed and covered in, is so large that three or four vessels can be in process of construction under it at the same time. The Wood Mills contain most ingenious block-making machines, the invention of Sir Isambard Brunel, in which rough timber, introduced at one end, is cut, squared, drilled, bored, and turned into the required shape. About 150,000 blocks are made here annually, and the machines require the attendance of no more than four men. In the smithy anchors are forged by aid of a Nasmyth's hammer. The dockyard contains also the residences of the superintending officers, and a school of naval architecture.—Portsmouth Harbor, about 420 yards wide at its entrance, expands into a spacious basin, extending inland about 4 m., and having a breadth of 3 m. along its n. shore. Large war-vessels can enter and lie at anchor at all times of the tide. The outward entrance is defended by Monkton Fort and Southsea Castle. The position of this harbor is highly favorable. It is in the middle of the channel, close to the magnificent anchorage of Spithead, where 1,000 ships of the line may ride without inconvenience, and is under shelter of the Isle of Wight, and opposite the French arsenal of Cherbourg.

The local trade of P is supported by the dockyard and the other public establishments. Brewing is largely carried on. Coal, cattle, sheep, corn, and provisions are imported from British coasts; and timber and wine from other lands. In 1883 there entered the port 2,094 vessels, of 210,210 tons; and cleared 2,079, of 216,926 tons.

The importance of this port dates only from the reign of Henry VIII. Its defenses were strengthened by Elizabeth, and afterward more thoroughly by William III. Here, in a house still standing in the High Street, and which was then an inn called the 'Spotted Dog,' the Duke of Buckingham (the 'Steenie' of King James) was assassinated by John Felton. 1782, Aug. 29, when the commander of the *Royal George*, Admiral Kempenfeldt, was writing in his cabin, the great ship, which was being careened for repairs, went down in the harbor, and nearly 1,000 lives were lost.

PORT TALBOT: see ABERAVON.

PORT TOWNS'END: city, cap. of Jefferson co., Wash.; on Quimper peninsula, between Discovery and Port Townsend bays, at the head of the Strait of San Juan de Fuac, and at the entrance to Puget Sound; 35 m. from Victoria, British Columbia, 65 m. from Seattle, 80 m. from Tacoma, It is the port of entry and call for the whole of Puget Sound and has the best harbor on the sound. During the year ending 1889, June 30, 214 vessels of 69,538 tons were registered at the custom-house here; 908 vessels of 689,131 tons entered, and 1,084 vessels of 856,156 tons cleared; 808 ocean steamships of 618,559 tons entered, and 853 of 637,925 tons cleared; and the imports were $361,502, domestic exports $4,065,760, and foreign exports $2,751. The city has 7 hotels, 1 national bank (cap. $75,000), 1 state bank (cap. $25,000), 6 churches, 2 public halls, opera-house, large union school building, new water-works, U. S. marine hospital, and 2 daily and 2 weekly newspapers. The vicinity produces valuable timber, the leading cereals, vegetables and fruit, limestone, and coal and iron; and the city ships oats, barley, potatoes, wheat, hay, lumber, and pelts. Pop. (1890) 6,000.

PORTUGAL, *pōr'tū-gal*, Port. *pōr-tô-gâl':* most westerly kingdom in Europe, part of the great Spanish peninsula; 36° 55′—42° 8′ n. lat., 6° 15′—9° 30′ w. long.; greatest length n. to s. is 368 m., average breadth e. to w. about 100 m. The census of 1878 showed pop. for continental P. 4,348,551, and with the Azores and Madeira, 4,745,124. The table shows area and pop. 1881 of the seven old provinces, with the corresponding official districts:

Provinces and Districts.	Sq. Miles.	Pop. (1881).
MINHO (Viana, Braga, Porto)............	2,810	1,014,768
TRAS OS MONTES (Braganza, Villa-Real)..	4,275	396,676
BEIRA ALTA (Aveiro, Coimbra, Viseu)....	4,533	964,900
BEIRA BAIXA (Guarda, Castello-Branco)..	4,688	412,532
ESTREMADURA (Leiria, Santarem Lisboa).	6,907	946,472
ALEMTEJO (Portalegre, Evora, Beja). ...	9,389	367,169
ALGARVE (Faro).........................	1,868	204,037
Total............................	34,470	4,306,554

Islands reckoned officially as belonging to the home territories are the Azores (q.v.) 960 sq. m., pop. 260,000; and Madeira (q.v.), etc., 320 sq. m., pop. 130,600.

The following, compiled 1891 from the latest available reports, shows the colonial possessions of P.:

Colonies.	Sq. Miles.	Pop.
1. AFRICAN—		
Angola................................	470,000	2,000,000
Cabinda..............................	460	....
Cape Verde Islands....................	1,486	110,926
Guinea and Bissagos...................	2,316	5,000
Madeira...............................	314	132,223
Mozambique............................	300,000	350,000
Prince and St. Thomas Islands........	417	21,037
2. ASIATIC—		
Goa, Daman, Diu, etc..................	1,605	481,467
Macao..............	21	66,036
Timor.................................	6,290	300,000
Total...........................	782,909	3,466,689

Of late, the Portuguese have made strenuous efforts to have the mouth of the Congo recognized as theirs; but a conference of the great powers at Berlin 1884, rejected their claim in favor of the International Assoc. of Congo: see AFRICA: CONGO, INDEPENDENT STATE OF.

Physical Aspect, etc.—P. is essentially a littoral country, forming the Atlantic or w. part of the Spanish peninsula, from which it is separated by political, rather than physical boundaries. Its mountains and rivers are, with few exceptions, mere w. prolongations of those of Spain. The principal mountain ranges lie about half-way inland, leaving almost the whole of its 500 m. of coast-line a flat sandy tract, with few rocky headlands; hence there are scarcely any harbors or places of safe anchorage except at the embouchures of the larger rivers. The highest range is the Serra de Estrella, which, passing from n.n.e. to s.s.w. through Beira and Estremadura, terminates in the steep acclivities of Cintra and Cap la Rocca, near Lisbon. The principal chain, known also as the Serra da Junto, merges in a series of ridges, which cover a tract 30 m. in length, between the Tagus and the sea. Another mountain range, named the Serra de Calderão and the Serra de Monchique, a mere continuation of the Spanish Sierra Morena, crosses the s. part of P. from e. to w., and terminates in its most southern promontory of Cape St. Vincent. These ranges, with the numerous mountain-spurs that intersect the n. districts in every direction, so thoroughly occupy the area of P., that except along the coast there are only two or three plains of any extent in the whole country, and these are w. of the Guadiana, in Alemtejo, and in Beira and Estremadura, near the Tagus and Vouga. The valleys are very numerous, and by their great fruitfulness present striking contrast to the barren and rugged mountains by which they are inclosed. The principal rivers enter P. from Spain: the largest are the Guadiana, which, leaving Spain near Badajoz, forms in part the boundary between the s. provinces of the neighboring kingdom; while the Minho and Douro, flowing w. form part of the boundary in the n. and n.e. The Tagus, or Tejo, intersects P. from its n. frontier to the s. termination of the Estrella Mountains, where it enters the sea a little below Lisbon. The Mondego, the largest river belonging entirely to P., after receiving numerous affluents, falls into the sea about midway between the Douro and the Tagus. The larger rivers, though obstructed at their mouth with dangerous bars, afford admirable means of internal navigation, together with the numerous lesser streams, and might through canals be connected into one great system of water-routes; but hitherto nothing has been done to improve these great natural advantages. Except a few mountain tarns, P. has no lakes. It has salt-marshes on the coast, near Setubal in Estremadura, and Aveiro in Beira, where large quantities of salt are annually obtained by evaporation. Mineral springs are abundant in many parts of the country, though hitherto almost wholly neglected.

The vicinity to the w. ocean tempers the climate of P., and exempts it from the dry heat by which Spain is visited. The great inequalities of the surface produce, however, great diversities of climate; for while snow falls abundantly on the mountains in the n. provinces, it is never seen in the lowlands of the s. districts, where spring begins with the new year, and harvest is ended by midsummer. Rain falls abundantly, especially on the coast, from Oct. to March; and in general the climate is healthful in the elevated districts even of the s. provinces; but malaria and fever prevail in low flat lands and near the salt marshes. The mean annual temperature at Lisbon is 61° Fahr.

The natural products correspond to the diversity of physical and climatic conditions; for while barley, oats, and wheat, maize, flax, and hemp, are grown in the more elevated tracts, rice is cultivated in the lowlands, the oak thrives in the n., the chestnut in the central, and the cork, date, and American aloe in the s. parts; while every species of European, and various semi-tropical fruits and vegetables, are grown in different parts of the country. The soil is generally rich; but agriculture is everywhere neglected, and is scarcely made subservient to the wants of the people. The cultivation of the vine and that of the olive are almost the only industries; from the vine is derived the rich red wine familiarly known as Port, from its being shipped at *O Porto*, 'the port.' The mineral products include gold, antimony, lead, copper, marble, slate, coal, iron, and salt; but only the last is worked in sufficient quantity for exportation, and is in eager demand for the British market for its superior hardness which adapts it specially for salting of meat for ships.

The finest cattle are reared in the n.; the horses of Alemtejo and the sheep of Beira are most valued. Mules and asses are principal beasts of burden. Goats and pigs are numerous and are raised at very low cost in all the mountain districts. Rearing of bees and silk-worms is being pursued with somewhat increased energy of late years. Fish is abundant in all the rivers and on the coast. The tunny and anchovy fisheries of Algarve are of considerable importance.

Commerce, etc.—The commerce of the country falls very far below its physical capabilities. Oporto and Lisbon are the only centres of manufacture and trade, the former having important silk and glove manufactories, and producing some linen, cotton, and wool fabrics, metal and earthenware goods, tobacco, cigars, leather, etc. But 1851–70 agricultural exports had doubled. In 1880, the mercantile marine of P. comprised 498 vessels, measuring 87,060 cubic metres. In 1879 there entered the ports 3,221 foreign vessels, and cleared 4,657; of Portuguese sea-going vessels (excluding coasters), 1,021 entered, and 796 cleared. 780 m. of railway had been opened (1880) and 280 more were in course of construction, principally in the environs of Lisbon, Oporto, Santarem, and Vigo; but the country is almost entirely without roads, the few which exist having been made only within recent years, before which the whole kingdom was in the same impassable condition in which the s. provinces remain. The scarcity and inefficiency of bridges, and the total lack of canals, render internal traffic almost impracticable, and set an impassable barrier to the progress of civilization, and material prosperity.

The exports, almost entirely wine, fruits, oil, and cork, are sent chiefly to Great Britain and her colonies. In 1880 the exports from P. to England were valued at £3,762,504, about $18,285,760; the value of the total exports being about £7,000,000, about $34,020,000; the wine alone amounting to one-third of this value. The Portuguese imports from the United Kingdom 1880 had value of £2,603,318, about $10,652,125; the value of all the exports being more than £4,000,000 about $19,440,000.

The budget for 1890–1 estimated the revenue at $42,852,578; expenditure $46,540,137; national debt $652,693,110. The imports 1888 were $51,819,948; exports (1890) $35,592,238. The annual budget usually shows a deficit.

Army and Navy.—The peace strength of the army (1889, Aug. 31) was 2,129 officers and 33,294 men; war strength 3,862 officers and 121,195 men; colonial army 1 regt. of infantry and 7,633 troops. The navy consisted of 1 iron-clad corvette, 6 unarmored cruisers, 14 gunboats, 5 torpedo boats, 3 customs gun-boats, 4 armed steamers, 6 small screw steamers, and 4 sailing vessels. The principal naval depôts are at Lisbon and Oporto. P. has 55 fortresses, the greater number mere fortified castles. Among the more important are Elvas, S. Julians Cascaes, Pininhe, Almeida, and Valença. There are six orders of knighthood—viz., the Order of Christ, founded 1319; St. Benedict of Avis; the Tower and Sword, founded 1459, re-organized 1808; Our Lady of Villa Viçosa, established 1819; and the Order of St. John of Jerusalem, separated 1802 from that of Malta. There is one civil service order, founded 1288.

Religion, Education.—In religion P. belongs almost exclusively to the Church of Rome, and shows little toleration to other creeds. At Lisbon and Oporto, Prot. places of worship are, however, sanctioned by the govt. P. is divided into three dioceses, presided over by the Cardinal Patriarch of Lisbon, the Abp. of Braga, who is primate of the kingdom, and the Abp. of Evora; and these, with the 14 bishops, belong to the Grandeza, or higher nobility. The number of clergy holding cures is stated at 18,000. The monasteries have been dissolved since 1834, but convents for nuns still exist. P. stands below the other countries of Europe in education; which is now superintended by a superior council, at the head of which is the minister of the interior. Public education is entirely free from the supervision and control of the church. Compulsory education was enacted 1844, but is far from fully enforced. 1870-80 there were in P. and its islands 2,700 elementary schools, and 115,000 pupils; there are about 20 lyceums, and 60 other secondary schools; polytechnic academies at Lisbon and Oporto; and clerical, medical, naval and military training-schools. The one university at Coimbra, one of the oldest in Europe, has five faculties, 52 professors, and about 1,000 students. Lisbon has a learned soc. (the Acad. of Sciences), and a public library of 300,000 vols.

Law, Government, etc.—There are about 120 courts of justice, several of which are at Lisbon, where also the high court of appeal holds its sittings. The courts are public, and in some cases trial by jury is adopted. Till of late, law was administered in accordance mostly with the Alfonsine code of the 15th c., and the Código

Filippino, or code of Philip IV. of Spain; but since 1868 there has been a *Codigo Civil Portuguëz*.

P. is a constitutional monarchy, the crown being hereditary alike in the female and male lines. The houses of representatives are called *Cortes*, and consist of the *Camaras dos Pares* and the *Camaras dos Diputados*, the former composed of grandees, chosen for life by the sovereign, and the latter of 149 members, elected by voters. The monarch is assisted by a cabinet of seven ministers of state, and a council of members chosen for life. He bears the title King of Portugal and of Algarve 'on both sides of the ocean.' The heir-apparent bears the title Prince of Beira. The winter residence of the king and court is the Palace dos Necessidades at Lisbon, which at other seasons is exchanged for the palaces at Mafra, Queluz, Bemfica, and Ramalhão. The nobility is divided into *Titulados* and *Fidalgos;* these, with the upper officials, higher clergy, etc., constitute one-eighth of the whole population. Very many of the Fidalgos having been reduced to the condition of paupers, subsisting on charity, a law was passed 1844, partly abolishing hereditary aristocracy, it being made dependent on the possession of an annual income of about $2,500, together with an academical degree. The members of the second chamber are chosen directly by all citizens having an income of about $107. The deputies must have at least $430 per annum; but graduates of any of the learned professions need no property qualification. Lisbon (q.v.), the capital, is the centre of the small literary, artistic, and manufacturing activity in P. Besides Oporto (q.v.) and the capital, there is no city whose pop. exceeds 20,000, and only 13 which have more than 10,000.

Race.—The Portuguese are a mixed race. In Algarve and Alemtejo, the Arabic element is still very perceptible, and the people of those provinces have dark-brown skins, and tall, slim, lithe, and active figures; while the natives of the more n. districts, with lighter skins, have less regular features, small eyes, and short, thick-set figures. Although the Portuguese may probably be regarded as the remains of the original population of the peninsula, they differ essentially from their Spanish brethren, whom they now regard with inveterate hatred and jealousy on account of their attempts a few centuries ago to destroy the independence of Portugal. They indulge in interminable verbosity, ceremonious flattery, and servile politeness, and they are inclined to extravagance and display. They are, however, intensely patriotic, brave, persevering, enterprising, hospitable, cheerful, and ready to oblige. As a people, they are dirty and slovenly; few persons among them have any great mental culture, and the lower orders are unable to read or write; hence the grossest superstition and bigotry prevail in every class of the population.

History of Portugal.—The earliest notice which we have of the w. portions of the Spanish peninsula is from the Romans, who followed the Carthaginians as conquerors of the territories of the ancient Iberians and western Celts. Under Augustus, the peninsula was divided into three provinces, governed by pretors, of which the w. province of Lusitania comprised the greater part of the present kingdom of P., besides portions of Leon and Spanish Estremadura. When the Romans withdrew from the peninsula, which was rapidly overrun by Visigoths from the n., and later by Saracens from the s., Lusitania was overwhelmed in one common ruin with Iberia or ancient Spain. About the middle of the 11th c. it fell under the sway of Ferdinand I. of Castile. In 1095 Henry of Burgundy, who had married a natural daughter of Alfonso VI., King of Castile, successor of Ferdinand, received from that monarch the govt. of Portugal from the Minho to the Tagus, as a dependent fief. It is maintained, however, by Portuguese authorities, that even from this time the country was independent. His son, Alfonso I., gained signal advantages over the Arabs, and, by his gallantry and prudence, secured the affections of the people. After his great victory over the Moslems, in the plain of Ourique, in Alemtejo, 1139, his soldiers proclaimed him king. His successes on this occasion inflicted a serious check on the advance of the Infidels; and in recompense for the services which he had thus conferred on Christendom, the pope confirmed his title, which had been unanimously ratified by the Cortes of Lamego. The Burgundian House, which continued in possession of the throne 400 years, gave P. some of its noblest and best kings. The immediate successors of Alfonso I. were engaged in many severe struggles with the clergy and nobles, who were always ready to combine against the sovereign; but though the monarchs were often baffled in their attempts to uphold the independence of the crown, the dignity of the kingdom was, on the whole, maintained by the representatives of this family, who are, moreover, distinguished as promoters and upholders of the maritime glory of Portugal. Dinis (Dionysius), who succeeded Alfonso III. 1279, must be regarded as the founder of Portuguese commerce and mercantile enterprise. This king also encouraged the industrial arts, and protected learning, in furtherance of which he founded 1284 a university at Lisbon, which was transferred 1308 to Coimbra. Dinis was succeeded 1325 by his son, Alfonso, surnamed the Brave, whose reign was almost wholly occupied in wars with the Castilians and the Moslems. With Alfonso's grandson, Ferdinand I., the legitimate branch of the Burgundian House became extinct 1383. After some disturbances, his illegitimate brother, Joam (John), was recognized by the cortes as king 1385. His reign was eventful, not merely by reason of the internal reforms which he introduced, and of his steady maintenance of the prerogatives of the crown; but chiefly as associated with the commencement of those vast and important geographical discoveries and commercial enterprises, to which P. owed its position during that and the succeeding age as the greatest maritime power of Europe. To Joam's son, Enrique (Henry) the Navigator, is due the merit of having organized various voyages of discovery, and inaugurated a regular system of colonization, which, during the reign of Joam II. (who ascended the throne 1481), culminated in the successive acquisition by P. of the Azores, Madeira, Cape de Verde, and other islands; in the doubling of the Cape of Good Hope under Bartholomeo Diaz; and, as the result of the latter, in the successful achievement of the passage by sea to India, which was effected, in 1497, under the command of Vasco de Gama, in the reign of Joam's successor, Manoel. The discovery of Brazil, and the settlements made there and on the w. coast of India, increased the maritime power and fame of P., which were further extended under Manoel's son, Joam III., who ascended the throne 1521. At this period, P. ranked as one of the most powerful monarchies in Europe, and Lisbon as one of its most important commercial cities. Sudden as this course of prosperity had been, its decline was almost more abrupt, and may in great measure be referred to the influence of the priests, for the introduction into P. of the Inquisition 1536, led to the expulsion of the numerous wealthy and industrious Jews, on whose able financial management the commercial interests of the Portuguese were largely dependent, and gave rise to an amount of social tyranny and oppression, both in P. and its colonies, which, coupled with a bad system of government, depressed the energy and crippled the resources of the nation. The influence of the Jesuits under the minority of Joam's grandson, Sebastian, and their evil counsels in urging the young king to enter on a fatal expedition to Africa against the Infidels, led to still further miseries. The defeat of the Portuguese, and the capture and death of their young king at the battle of Alcazar 1578, and the extinction of the old Burgundian line 1580, after the brief reign of Sebastian's uncle, Enrique, plunged the country into difficulties and misfortunes of every kind, which lost none of their weight, though they changed in character. After a struggle for the throne between many eager candidates, none of whom found favor with the nation at large, which persisted in the delusive hope that Sebastian was still alive, and would return from the hands of his Infidel captors, Philip II. of Spain succeeded in securing the crown of P., and annexing the Portuguese kingdom to the Spanish monarchy. This event proved disastrous in the extreme to P., for, besides bringing the country to the brink of ruin, by mal-administration and misappropriation of its resources, it involved it in all the ruinous wars of Spain in the Low Countries and in Germany, a great part of the expenses of which it was made to bear; while the Dutch, in retaliation for Spanish aggressions, attacked the Portuguese settlements in Brazil, and almost completely deprived them of their possessions in the Indian archipelago. The insolence of Philip IV.'s minister, Olivarez, brought matters to a crisis; and 1640, after a forced union of 160 years, P. was freed, by a bold and successful conspiracy of the nobles, from all connection with Spain, and the Duke de Braganza, descendant of the old royal family, placed on the throne, under the title Joam IV. The war with Spain, the natural result of this act, ended 1668, when, by the treaty of Lisbon, the independence of P. was formally recognized by the Spanish govt. For the next hundred years, P. vegetated in inglorious apathy. Her ancient glory had departed never to return, the nation was steeped in ignorance and bigotry, and from having been one of the greatest maritime powers of Europe, the Portuguese were content with becoming a commercial dependent, rather than ally, of Great Britain. Under the reign of Joseph I., who died 1777, the genius and resolution of the minister, Pombal (q.v.), infused temporary vigor into the administration, and checked for a time the downward tendency of the national credit. Pombal's efforts to rouse the people from their sloth, and infuse vigor into the govt., were frustrated by the accession of Joseph's daughter, Maria, who, with her uncle-husband, Pedro III., allowed things to fall back into their old channels. The mental alienation of Maria led, 1789, to the nomination of a regency under her eldest son, Joam. This prince, who showed considerable capacity in early life, finding that he could not maintain even a shadow of independence on the outbreak of the war between Spain and France, threw himself wholly on the protection of England; and finally, when he learned that Napoleon had determined on the destruction of his dynasty, left P. 1807, accompanied by all his family, and transferred the seat of his govt. to Rio Janeiro, cap. of Brazil. This act was immediately followed, on the part of the French, by the occupation and annexation of P.—a measure which gave rise to the Peninsular War. The victory of Vimeira, by the combined English and Portuguese army 1808, freed the land from its French assailants; and 1810, on the death of Queen Maria, the regent succeeded to the joint crowns of P. and Brazil. The continued residence of the new king, Joam VI., at Rio Janeiro, gave occasion to abuses and discontent, which resulted 1820 in the outbreak of a revolution at Lisbon, and the proclamation of a constitutional form of govt., instead of the pre-existing absolutism. After a period of great national excitement and political disturbance, the differences between the sovereign and people were so far adjusted, that Joam agreed to and signed the constitution of P., and ratified the independence of Brazil, which was to be governed by his son, Dom Pedro, while he himself retained only the title of emperor. On the death of Joam 1826, Pedro IV., after organizing the govt. of P. on the model of the French charter, renounced the Portuguese crown in favor of his daughter, Doña Maria da Gloria, on condition of her marriage with her uncle, Dom Miguel. The latter, who, during the lifetime of Joam, had availed himself of every opportunity to thwart the more liberal policy of his father and brother, waited only for the embarkation of the English troops to break the oath which he had taken to maintain the constitution, and gathering round him all who were in favor of restoring the old order of things in P., he was through their aid declared king by the Cortes, which met 1828, June. A period of indescribable confusion, misrule, and anarchy followed. The nobles, monks, and rabble ruled the land; 13,000 Portuguese citizens went into exile, while double that number of persons, suspected of favoring the Constitutional party, were kept in confinement. At length, 1832, Dom Pedro was enabled, chiefly by a loan from Englishmen, to raise a fleet, and make a landing at Oporto. Admiral Napier, in the meanwhile, operated on the coast of Algarve successfully in favor of the young queen, whose cause, by these victories, and the support of an alliance with the great powers, finally proved victorious. Doña Maria made her entry into Lisbon 1833; and in the following year Dom Miguel signed the Convention of Evora, by which he renounced all pretensions to the throne, and agreed to quit Portugal. The death of Dom Pedro in the same year, after he had effected several important reforms, proved a heavy misfortune to P., which suffered severely from the mercenary rule of those who occupied places of trust about the person of the young queen. Her marriage 1835 with Augustus, Duke of Leuchtenberg, his death at the end of a few months, and her second marriage 1836 with Prince Ferdinand of Saxe-Coburg, were followed by grave political disturbances, which became aggravated by the personal avarice and want of good faith of those in whom the young queen placed her confidence. A branch of the democrats, known as the Septembrists, from the month in which they made their first decisive stand against the govt., loudly demanded the abrogation of the charter promulgated by Dom Pedro (and known as the *Carta de ley de* 1826), and the restoration of the constitution of 1820. This contest of the charters may be said to have continued through the entire reign of Doña Maria. The govt. was alternately in the hands of Septembrists and Chartists, toward both of whom the queen acted with a duplicity that frustrated every effort at adjustment of the national disorders. Insurrections and counter-insurrections were frequent, the troops were not to be trusted in moments of emergency; guerilla bands scoured the country at will, and openly defied the queen's authority. The Absolutists, or Miguelites, took advantage of the general disorder to produce a reaction in favor of the old church party. The financial embarrassments were complicated in the extreme; while the obstinacy of the nation in maintenance of the slave-trade, in defiance of treaties and pledges, brought P. into temporary collision with Great Britain, the only ally on whom Doña Maria could rely. An armed intervention of the great powers 1847 produced a partial abatement of the national disorders; and matters might have permanently improved, had not the queen's partiality for her unpopular ministers, Count Thomar and his brother Cabral, and her determination to leave the administration of affairs in their hands, exasperated the general discontent and distrust of the court, and led to the insurrection, which, without bloodshed, made the national favorite, the Marquis de Saldanha, *de facto* military dictator of Portugal, and evoked a general expression of the popular wish for the queen's abdication. Saldanha's ministry, though begun under good auspices, soon showed the same readiness to succumb to the views of the court which had characterized former ministries. One cortes was dissolved after another; finally, 1852, the govt. declared itself prepared to carry out necessary reforms without concurrence of the cortes, and to demand at a future period a bill of indemnity for its acts. At this crisis, the queen died suddenly, and her eldest son ascended the throne 1853, as Pedro V., under the regency of the king-consort his father. The latter used his power discreetly; and by his judicious management, the financial disorders were partially adjusted. Upon the sudden death 1861 of Pedro, his brother was proclaimed king as Luis I. He died 1889, Oct. 19, and was succeeded by his eldest son, proclaimed king as Carlos I. Dec. 28. Concessions for the construction of a railroad from Delagoa Bay to Pretoria were granted by King Luis to Edward McMurdo, an American citizen, 1876; and the Portuguese govt. announced 1887, Nov. 1, the completion of the road to a frontier station on the Komati river, and that the section from Komati to Pretoria would be finished by a company working with a subsidy from the Transvaal govt. Soon afterward it was stated that the Portuguese and Transvaal govts. would probably fix the frontier a considerable distance from the Komati station, thus necessitating an extension of the line. 1889, May 8, Mr. McMurdo died, and, the same day, the Portuguese govt. declined to extend the time for finishing the road to the new alleged frontier station; and June 26 the govt. cancelled the concession, because the road had not been completed within the specified time. This action, despite remonstrances from Great Britain and the United States, whose citizens had large money interests in the scheme, was followed by the dispatch of English gun-boats to Delagoa Bay, and the filing in Washington of a claim of damages ($750,000) against P. by Mrs. McMurdo. 1890, Apr. 26, the U. S. and British govts. made an imperative demand that the question be settled by arbitration; May 2, P. accepted the principle of arbitration conditionally; May 5 it accepted it without reserve; and June 4 submitted a counter-proposal that an impartial nation should first decide whether the matter was a proper case for arbitration; and if it decided in the affirmative, that the same nation should decide the terms of settlement. **In the mean** time the govt. of P. issued a proclamation claiming countries n. and s. of the Zambesi river, Africa, including Mashoualand, over which Great Britain asserted a protectorate, and extending from Angola, on the w. to Mozambique on the e. Great Britain protested against the proclamation, 1889, Nov., and P. hastened expeditions to occupy the disputed territory. 1890, Jan., Great Britain demanded the immediate recall of all Portuguese forces from the banks of the Shiré, beyond the confluence of the Ruo, and s. of the Zambesi, and from Mashoualand. The cabinet of P. yielded to this ultimatum Jan. 12, and the same day a mob attacked the British legation in Lisbon. Popular clamor was strong against the govt. of P., the cabinet was forced to resign, and an alleged republican uprising occurred in Oporto 1891, Jan. 31, which required the presence of troops to suppress.

PORTUGUESE, a. *pŏr′tū-gēz:* of or from Portugal:.N. the people or language of Portugal.

POR′TUGUESE LANGUAGE AND LITERATURE: one of the Romance family of languages—and its literature; developed in the s.w. portion of the Spanish peninsula. The Portuguese, like every other branch of the Romance family of languages, has grown out of a local form of the *Lingua Romana Rustica*, on which in course of time had been ingrafted many elements of Arabic from the Saracen invaders of the country, and numerous verbal and idiomatic characteristics of the Frankish and Celtic dialects, introduced with the Burgundian founders of the Portuguese monarchy. The earlier forms of Portuguese bore close affinity with the Galician, and though, in course of time, it presented strong resemblance to its sister language, the Castilian, as far as both possessed numerous words of identical origin, it yet differed so widely from the latter in grammatical structure, as almost to merit the designation of an original tongue. The antipathy between the Portuguese and Spaniards, and the consequent strenuous efforts of the best Portuguese writers to keep their language distinct, and to resist the introduction of further Castilian elements, had the effect of making Portuguese still more dissimilar from the sister tongues of the peninsula; and the result was the production of a language differing from pure Spanish in having an excess of nasal sounds, and fewer gutturals, with a softening or lisping of the consonants, and a deepening of the vowels, which renders it the softest, but least harmonious, and the feeblest of all the Romance tongues. The earliest specimens of genuine Portuguese belong to the beginning of the 13th c., and consist mostly of collections, or books of songs (*Cancioneiros*), which, both in form and rhythm, resembled the troubadour or *minne* songs of the same period. Of these, the oldest is the *Cancioneiro dêl Rei Dom Diniz*, or Book of Songs, by King Diniz, who had long been regarded by the Portuguese as their earliest poet, but whose poems were supposed to be lost, till they were discovered, in the earlier part of the 19th c., in MS. in the library of the Vatican, and published at Paris and Lisbon 1847. In the 14th and 15th c. the court continued to be the centre of poetry and art, as it had been under Diniz; but Castilian was in greater vogue than Portuguese, which was despised by the numerous royal poets, who emulated the example of Diniz, and composed love-songs and moral or didactic poems. Under the culture of these courtier bards, the poetry of Portugal remained weak and effeminate, without acquiring even the tenderness and pathos which characterized the Spanish romances of that age. The poetry and literature of Portugal acquired new vigor with the growth of her maritime and commercial glory; and the *Cancioneiro Geral* (Lisb. 1516) of the poet Garcia de Resende, which gives a general summary and extracts of all the Portuguese poets of the latter half of the 15th and beginning of the 16th c., affords evidence of this improvement, which is most strongly exemplified in the sentimental pastorals or romances, and the national eclogues of Bernardino Ribeiro and Sá de Miranda, whose eclogues and prose dramatic imitations of Plautus and Terence, mark the transition period between the mediæval lyrical and the later classical style. These first attempts at the drama were followed by Antonio Ferreira, whose *Inez de Castro* is the oldest Portuguese tragedy. But the classical school, whose chief cultivators were the courtiers of Lisbon and the professors of Coimbra, found little faver among the people at large, for the discoveries and conquests of the nation in Asia, Africa, and America, excited an enthusiasm and self-consciousness in the people, which led them to crave something more practical and natural than the stilted style of the classicists. At this crisis, when P. was at the zenith of her material prosperity, appeared her greatest poet, Camoens, who, in his immortal epic, *Os Lusiadas* (q.v.), 1572 struck out a new path in the domain of epic poetry; while his numerous sonnets, 300 in number, his *Cançoes*, or songs, his *Redondillas*, dramas, and other poetic productions, exhibit a versatility of genius and graceful tenderness which place him in the foremost rank of European poets.

With Cameons and his contemporary, Gil Vicente, the language and poetry of P. reached the culminating point of their development. During the dominion of Spain, the Portuguese so far lost all feeling of national independence and patriotism, that they at length renounced their native tongue, and adopted the language of their foreign rulers. With the restoration of political independence, under the sway of the Portuguese House of Braganza, a reaction took place; but the 17th and 18th c. produced few Portuguese writers who attained more than an ephemeral and purely local reputation—bombast, or slavish imitation of Spanish and Italian writers, being the predominant characteristics of the

Portuguese school of light literature. Some good historical writers belong, however, to this period; among whom were Jacinto Freire de Andrade, whose life of Joao de Castro, Viceroy of India, still holds its place as the most perfect monument of classical prose; the great Indian missionary, the Jesuit Father Antonio Vierra (d. 1699), whose sermons and letters—of which a collection was published at Lisbon 1748, and at Paris 1838—are regarded by his countrymen as models of style and diction; F. X. da Meneses, author of *O Portugal Restaurado* (1741), etc. In the beginning of the 19th c., Portuguese poetry was partially redeemed from its previous low grade by two men, who, though they professed to observe a strictly classical style, possessed a delicacy of taste, and a genial creative power, which saved them from falling into the absurdities that had generally characterized the school in Portugal. The elder of these two, F. M. do Nascimento, who died in exile at Paris 1819, though noted specially as an elegant lyrist, deserves notice for his gracefully written miscellaneous papers; while Manoel de Bocage, his less cultivated rival and contemporary, must undoubtedly be regarded as the most original and truly national of the modern poets of Portugal. His sonnets rank as the finest in the language, and these, with his numerous idyls, epigrams, and occasional poems, in various styles and modes of versification, have had a host of imitators, among the best of whom are the dramatist J. B. Gomes, J. M. da Costa e Silva; the satirist, T. da Almeida; and the Brazilian, Antonio Caldas, distinguished for his sacred epics, and various imitations of Milton and Klopstock. The best of the recent Portuguese poets are M. de Albuquerque, A. de Castilho, and A. de Carvalho, and J. B. d'Almeida Garrett. The last-named, whose collected poetic and prose works appeared at Lisbon 1840, was the most versatile and popular writer of his time in Portugal. In the departments of travels, geography, and history, P. has produced good writers from the earliest periods of its literary history; and in recent times, the works of B. Machado, J. Ferreira, and A. de Cajo, have well maintained the national reputation.—Portuguese literature is cultivated also in Brazil, and, of late years, with more success than in the parent country. The principal names in Brazilian, poetry are, Gonçalves Diaz, Macedo Abreo, and Magalhaens; in history, Varnhagen, author of the *Historia general de Brazil* (1854), and P. da Silva, author of the *Brazilian Plutarch;* besides some divines, philosophers, and translators from the classics.

POR'TUGUESE MAN-OF-WAR (Jelly-fish): see ACALEPHÆ.

PORTULACEÆ, *pōr-tū-lā'sē-ē*, or PORTULACACEÆ, *pōr-tū-lâ-kā'sē-ē:* natural order of exogenous plants, nearly allied to *Caryophyllaceæ*, from which it differs chiefly in the generally perigynous stamens, the calyx consisting of two sepals united at the base, and the capsule frequently opening transversely. The species are not very numerous; they are much diffused over the world, and are shrubby or herbaceous, generally succulent, growing mostly in dry places. The flowers are often large and beautiful, but ephemeral. The foliage is bland and insipid. Some species are used as salads and pot-herbs, of which the best known is Purslane (q.v.). The tuberous roots of *Claytonia tuberosa*, a Siberian plant, are used for food, as are those of the Melloco (*Melloca tuberosa* or *Ullucus tuberosus*), a Peruvian plant sometimes referred to this order. The genus *Calendrinia* furnishes some beautiful annuals.

PORT WINE, *pōrt wīn* (i.e., *Porto* or *Oporto Wine*): species of red wine, hot and heady; produced chiefly in a mountainous district of Portugal, called Cïma de Douro, and exported from Oporto and Lisbon. The vine from which this wine is produced is planted generally on craggy slopes with a s. exposure. The grapes are gathered from Sep. 1 to Oct. 15: the cultivation and gathering employ annually 10,000 cultivators and 20,000 gatherers. P. W., when pure and unadulterated (very seldom the case), does not acquire its full strength and flavor till it has stood for some years, but care must likewise be taken that it is not allowed to become too old. The color of new P. W. varies from pale rose to deep red, and changes with age, becoming permanently a deep tawny brown. By far the greater portion of the wine made is mixed with spirit even during the time of fermentation, in order to give the new wine the ripeness and strength which exporters require, and which the wine does not naturally attain till it has stood for some time; the proper color is also given by an ingredient known as *jeropiga*, a preparation of elder-berries, molasses, raisin-juice, and spirit. It is an excess of this jeropiga in the inferior sorts of port which communicates to them the medicated odor frequently noticed. The extreme 'headiness' of port is due chiefly to the liberal admixture with spirit, and this is the case with all the sorts generally exported. From the time when port came into demand (about 1700, though it was known in England before this) till 1826, its export was a monopoly in the hands of the English merchants, and the amount produced increased, with some steadiness, year after year till 1836, when it reached 38,459 pipes, valued at more than $5,500,000. The ultimate effect of this monopoly was to increase the price of port in England, and at the same time so to deteriorate its quality that it gradually became of less demand, and was to some extent supplanted by southern French and other wines. Since 1836 it has fluctuated in amount; 1850 the exportation reached 37,487 pipes: 1876–80 the exports to Great Britain ranged from 4,000,000 gallons to 3,000,000, and the value from about $4,500,000 to about $6,500,000.

In 1890 the import of Oporto P. W. into New York was 111,787 gallons in wood; average value on shipboard and subject to U. S. duty $116.64 per butt of 126 gallons; also 2,330 dozen bottles, averaging 5 to the gallon. The imports of Spanish red wine, generally sold for P. W., were 247,790 gallons, value (with duty paid) about $1.25 per gallon. The total imports into the United States 1890 of both kinds of wine were about 10 per cent. more than the above amounts.

PORUS, *pō′rŭs:* king of a region of India e. of the Hydaspes. With an army he tried to prevent Alexander's advance across that river, but he was defeated and made prisoner. Alexander restored him to his kingdom, with enlarged boundaries. P. was thereafter the faithful ally of the Macedonians, but after the departure of Alexander was put to death by Eudemus, commander of the Greek army of occupation.

POSADA, n. *pō-sâ′da* [Sp.]: an inn.

POSAUNE, n. *pō-zow′nĕ* [Ger. trombone]: reed-stop on the organ, of rich and powerful tone; its pipes are 8 ft. on the manuals, 16 or 32 ft. on the pedals.

POSCHA′REVATZ: see PASSAROWITZ.

POSE, v. *pōz* [F. *apposer*, to lay, set on or near to; *poser*, to set or lay: L. *apposĭtus*, put or placed at or near—from *ad*, to or at; *posĭtus*, put or placed—whence *apposite*, as applied to answers]: to put or bring to a stand by a question or by questions; to puzzle; to perplex by asking questions difficult to answer. PO′SING, imp.: ADJ. puzzling; bringing to a stand by a perplexing question. POSED, pp. *pōzd.* POSER, n. *pō′zėr*, one who asks questions difficult to answer; a question difficult or impossible to reply to; an examiner.

POSE, n. *pōz* [F. *posé*, placed—from *poser*, to set or lay]: in *paint.* and *sculp.*, the attitude which the character represented is considered to have taken naturally; a position formally assumed for the sake of effect: V. to assume a position or character. POSÉ, a. *pō-zā′*, in *her.*, standing still with all his feet on the ground, as the attitude of a lion or other beast. POSES PLASTIQUES [Fr. statuesque attitudes]: equivalent to Tableaux Vivants (q.v.).

POSE, n. *pōz* [AS. *ge-posu*, a cough]: an old medical term for a stuffing in the head from cold; a catarrh. *Note.*—Hooper suggests that this may be the real origin of *pose*, to puzzle, meaning in the first instance 'to stupefy.'

POSEI′DON: see NEPTUNE.

POSEN, *pō′zĕn:* province of Prussia, bounded n. by Pomerania and E. Prussia, e. by Poland, s. by Silesia, w. by Brandenburg and Pomerania; 11,150 sq. m. Pop. (1880) 1,703,397. It is divided into the two governmental districts of Posen and Bromberg; and the principal towns are Posen, Bromberg, Lissa, Rawitsch, and Gnesen. The principal river is the Wartha, which traverses P. from e. to w., and is navigable throughout the greater part of its course, as is also the smaller Netze. The country is almost everywhere level, and its surface extensively covered with bogs, ponds, and small lakes. The soil is on the whole fruitful, and the numerous swamps and forests which covered the land during its annexation to Poland, have of late years been converted into rich meadow and good arable land, where cattle of superior quality are raised, and good crops of wheat, barley, oats, and flax are procured. The forests are extensive and productive, and contribute largely to the exports of the province, of which, however, the most important articles are corn, wool, tallow, hides, wax, and honey. Except coal, obtained from beds near the town of Wronki, P. has no mineral products. Good broadcloth, linens, and lace are manufactured in many of the small country-towns. Since the annexation of P. to Prussia, much has been done to supply the previous deficiency in popular instruction; and there are now nine gymnasia, several normal and training schools, a seminary for priests, and more than 2,000 burgher and national schools. The greater part of the people belong to the Rom. Cath. Church, which is under the spiritual jurisdiction of the Abp. of P. and Gnesen. Of the remainder, 74,000 are Jews. The inhabitants may still be said to be Poles, more than 800,000 persons using Polish as their mother-tongue. P. formed an integral part of Poland till 1772, when, at the first partition of the Polish territory, the districts n. of the Netze were given to Prussia. At the second and third partitions, 20 years later, the remainder was incorporated in the Prussian kingdom under the name S. Prussia. In 1807 P. was included in the duchy of Warsaw; but by the act of the Congress of Vienna, it was separated 1815 from Poland, and re-assigned to Prussia under the title of the Grand Duchy of Posen. In 1848, the Poles, who had never amalgamated with their new German compatriots, took advantage of the general political excitement of that period to organize an open rebellion, which gave the Prussian govt. considerable trouble, and was not put down till much blood had been spilled on both sides. On the cessation of disturbances, the German citizens of the province demanded the incorporation of P. with these Prussian states which were members of the German Confederation, and the Berlin chambers gave their approval of the proposed measure 1850; but on the subsidence of revolutionary sentiment in Germany, the subject was dropped.

PO′SEN (Polish *Poznan*): chief town of the province of P., and a Prussian fortress of the first rank; on the low and sandy banks of the Wartha, nearly 150 m. e. of Berlin. Of the people, not quite half are Protestants, and about 10,000 are Jews. P., which ranks as one of the most ancient cities of Poland, became the seat of a Christian bishop in the 10th c. Till 1296 it was the seat of the Polish dukes; and it was a member of the Hanseatic League during the middle ages, when it was an important trading mart between w. Europe and the Slavonic lands bordering on Asia. At this time many German, English, and Scottish traders settled in P., which latterly fell into decay. It passed into the possession of Prussia 1815. At the great fire of 1803, when many of the older parts of the town were destroyed, P. lost the most striking features of its semi-oriental style of architecture; but it still retains a certain picturesque character, from the number of its church towers and lofty houses. Among its 15 principal churches, the most noteworthy are the cathedral, recently restored and elaborately ornamented; and St. Stanislaus, a splendid specimen of Italian architecture. Fortifications, making P. a fortress of the first rank, were nearly finished, after seven years' labor, 1883. It is the see of an abp., and has a fine town-hall, two gymnasia, a public library with 20,000 vols., training-schools for teachers of both sexes, a theatre, etc. It now has many fine regularly built streets and squares, in which are the winter residences of many of the provincial Polish nobles. A considerable trade in wood, corn, wool, broadcloth, and linen is carried on here, principally by the Jews; and the annual fairs in summer attract large crowds from all parts of the province. The chief manufactures of P. are cloth, leather, carriages, copper vats and other vessels used in distilling, and tobacco: there are also breweries, distilleries, and sugar-refineries.—Pop. (1871) 56,374; (1880) 65,713.

POSEY, *pō′zĭ*, THOMAS: soldier: 1750, July 9—1818, March 19: b. Va. He became quartermaster of a division of Lord Dunmore's army, and was in the battle with the Indians at Point Pleasant (q.v.), 1774, Oct. 10. As capt. in the 7th Va. continental regt. he took part in the engagement at Gwynn's Island 1776, July 8. He distinguished himself in the battles of Bemis Heights and Stillwater 1777, under Gen. Horatio Gates. As maj. he commanded the expedition against the Indians in the Wyoming valley 1778. At Stony Point P. was among the first to enter the enemy's works. He then served in S. C. and in Ga. After the war he settled in Spottsylvania co., Va., where he held civil office. He was a brig.gen. in Wayne's campaigns against the Indians of the n.w. 1793–4. Then he became a citizen of Ky., and was elected to the legislature. He moved to La.; was U. S. senator 1812, Dec. 7—1813, Feb. 5, when he was appointed gov. of Indiana Terr. At his death he held the office ofIndian agent.

POSIDONIUS, *pŏs-ĭ-dō'nĭ-ŭs*, surnamed THE RHODIAN: philosopher: abt. B.C. 135—B.C. 51; b. Apamea, Syria. He was a pupil of Panætius at Athens and later a teacher of philosophy at Rhodes. He was recognized as the head of the stoic sect in his time, but in his doctrine he made a compromise between the stoic and the peripatetic tenets. At the age of 50 yrs. he went as ambassador to Rome, and was a teacher of Cicero and Pompey. His writings, metaphysical and mathematical, have perished except fragments, pub. in Müller's *Fragmenta Historica Græca* (Paris 1849, III.).

POSILIPO, *pō-sē-lē'pō:* mountain on the n.w. of Naples, close by the city, remarkable for the tunnel known as the Grotta di Posilipo, through which the road from Naples to Pozzuoli (anc. *Puteoli*) passes. The grotto is in some places 70 ft. high, and 21 ft. wide, and is 2,244 ft. long. It is very ancient. Seneca mentions it as the *Crypta Neapolitana.* Strabo assigns its construction to M. Cocceius Nerva, supt. of aqueducts in the time of Emperor Tiberius. Above the e. archway of the grotto is the so-called 'Tomb of Virgil.' At the base of the hill of P. anciently stood the poet's villa, in which he composed the *Eclogues,*and *Georgics,* perhaps also the *Æneid.* During the middle ages, the common people firmly believed the grotto to be the work of the poet, whom they regarded as a great magician.

POSIT, v. *pŏz'ĭt* [L. *posĭtus,* put or placed—from *ponĕrĕ,* to place]: to dispose; to range; in *logic,* to lay down, as a position. POS'ITING, imp. POS'ITED, pp.: ADJ. set; placed; ranged.

POSITION, n. *pō-zĭsh'ŭn* [F. *position,* position—from L. *positiōnem,* a putting or placing: It. *posizione*]: the state of being placed or set; situation; place; attitude or posture, as of a model or object to be copied; a principle advanced or laid down; state of affairs; condition; state; a rule in arithmetic.—SYN.: place; point; situation; posture; attitude; station; location; locality; ground; spot; condition; proposition; assertion; thesis; principle.

POSITIVE, a. *pŏz'ĭ-tĭv* [F. *positif:* L. *positīvus,* settled by arbitrary appointment or agreement—from *posĭtus,* put, placed; *ponĕrĕ,* to place: It. *positivo*]: not admitting any condition or discretion; opposed to negative; absolute; direct; explicit; not implied; real; over-confident in opinion or assertion; dogmatical; affirmative; settled by arbitrary appointment; very certain; in *gram.,* applied to the state of an adjective, when without any increase or diminution in its signification, as good, bad: N. that which is capable of being affirmed; reality; a word which affirms or asserts existence. POS'ITIVELY, ad. *-lĭ,* absolutely; really; in its own nature; directly; expressly; in strong terms. POS'ITIVENESS, n. *-nĕs,* undoubting assurance; full confidence. POSITIVISM, n. *pŏz'ĭ-tĭv-ĭzm,* system of philosophy, originated by Auguste Comte (q.v.), which excludes from philosophy everything except the natural phenomena or properties of knowable things, and which holds all inquiry into causes, whether efficient or final, to be useless and unprofitable (see below). POS′ITIVIST, n. *-ĭst*, one who believes in positivism. POSITIVE ELECTRICITY, the quantity of electricity which a body contains beyond its natural condition; that kind of electricity evoked on glass by rubbing with silk (see ELECTRICITY). POSITIVE QUANTITY, in *alg.*, an affirmative quantity, or one to be added, which is distinguished by the sign (+) plus. POSITIVE POLE, in the *voltaic battery*, the end of the wire which is said metaphorically to give off the electric fluid; the other, which receives the fluid, is called the *negative pole.*—SYN. of 'positive, a.': actual; definite; absolute; certain; real; arbitrary; despotic; direct; dogmatical; stubborn; explicit.

POS′ITIVE PHILOS′OPHY: see POSITIVISM: COMTE.

POSITIVE PRINTING, in Photography: term denoting that process by which impressions from a Negative (q.v.) are produced upon suitably prepared paper. The term, however, does not belong exclusively to positives produced on paper, and intended to be viewed by reflected light, since transparent positives for examination by transmitted light are produced on glass also. These are obtained in a manner very similar to the dry negative collodion process. For the whole subject, see PHOTOGRAPHY. This article deals with the obtaining of positive proofs on paper.

If we regard the negative not as the picture but as the means of producing one, the first thing which presents itself for notice is the paper. This may be either German or French, known in the markets under the respective names Saxe and Rive. They are used in the simply salted condition, or more usually in the salted and albuminized state, the purpose of the albuminizing being to prevent the chemicals used in the process from sinking into the paper, whereby the delicate details of the negative would become defective on the surface. The process is briefly as follows: Float the paper on the salting bath one to five minutes; drain for one minute; hang up to dry. Float the paper on the exciting bath five to ten minutes, according to its strength; drain, and hang up to dry. Expose in a pressure-frame under a negative. The necessary depth of impression being obtained (a point to be determined only by experience), wash the print in common water. Some operators at this stage immerse the print in a bath containing one per cent. of ammonia for two or three minutes. This is not absolutely necessary; should it, however, be done, the print should be afterward washed in water for five or ten minutes; after which it is immersed in the toning bath one to ten minutes, or until the desired *tone* be obtained; it is then washed in several changes of water, preparatory to immersion in the fixing bath. This last operation occupies 15 to 30 minutes, according to the strength of the fixing solution, and the depth to which the printing has been carried. The print is then copiously washed in *many* changes of water, and hung up to dry.

The *baths* referred to above are composed as follow: *Salting Bath*, water, 1 ounce; albumen, 4 ounces; good common salt, 48 grains. *Exciting Bath*, nitrate of silver, 240 grains; water, 4 ounces; glacial acetic acid, half a dram. *Toning Bath*, chloride of gold, 4 grains; water, 24 ounces; carbonate soda, 100 grains. *Fixing Bath*, hyposulphite of soda, 4 ounces; water, 1 pint.

Printing in carbon, lamp-black, or other impalpable powder, which had long been desired by reason of doubts as to the stability of silver prints, has been brought to a considerable degree of perfection. It is based on the discovery by Mungo Ponton, that a mixture of gelatine and bichromate of potash is rendered insoluble by the action of light; and on the experiments of Poitevin, Fargier, and Blair. There are three typical processes—*Autotype*, *Woodburytype*, and *Lichtdruck*. The *Autotype* consists in coating a sheet of prepared paper with a mixture of gelatine, bichromate of potash, and carbon, and when dry, exposing it under a negative. On removal from the printing-frame, the pigment is moistened with water, and laid, prepared side down, on a support of glass, zinc, or shellac-coated paper, to which a gentle pressure makes it adhere. The paper is then removed, and the print developed by immersion in warm water, which dissolves the unaltered gelatine, but cannot touch the parts rendered insoluble by the light which has passed through the negative. The developed print is again transferred to paper, when the high lights are found to consist of those parts where the gelatine has been completely dissolved, the middle tints of the parts less soluble, and the shadows of the parts quite insoluble.—In the *Woodburytype*, a bichromated gelatine film, but without carbon, is prepared, exposed, and developed in a somewhat similar way, but dried without being transferred to paper, the result being a sheet of gelatine with a picture in *relief*. This is laid on a plate of soft metal, and covered with a plate of steel, and the whole subjected to the action of a hydraulic press; by which the soft metal takes the impression of the gelatine film. In printing from the plate so produced, an ink, consisting of carbon and gelatine, is poured on the centre, the paper is laid on the ink, and the pressure of a suitable press applied, whereby the ink is squeezed into the shadows and half tones, and the high lights are left clean, the result being a really fine print. Glass may be used instead of paper, with very fine results.—*Lichtdruck* is a method of printing photographs in an ordinary lithographic press, with printer's ink, from gelatine films prepared on the same principle as the *Woodbury* tissue, except that the soluble gelatine is not washed away. The film is attached to a thick plate of glass fixed in the press; and when sponged over, the soluble parts absorb water, and so cannot take on ink, while the insoluble portions remain dry, and the ink adheres to them.

POSITIVISM, *pŏz'ĭ-tĭv-ĭzm:* system of thought and life founded by Auguste Comte (q.v.); defined by him as consisting essentially of a 'philosophy and a polity which can never be dissevered; the former being the basis, and the latter the end, of one comprehensive system, in which our intellectual faculties and our social sympathies are brought into close correlation with each other.' He chose the word *Positive* on the ground of its indicating the *reality* and *constructive tendency* which he claimed for the doctrine in its theoretical aspect; while he anticipated that in the future the term would acquire a wider meaning by suggesting similar ideas in the sphere of feeling and action. The two primary characters of P., the philosophy and the polity, were finally welded into a whole under the conception of a religion, which has for its creed the new synthesis established by the one, and for its practice the scheme of moral and social reorganization proposed by the other. P. is to be considered under these three aspects.

Positive Philosophy.—Comte's primary aim was to put an end to what he deemed the intellectual and social anarchy which had resulted from the destructive criticism and the revolutionary upheaval of the 18th c., by supplying an interpretation of phenomena which should organize our knowledge of the world, of man, of society, into a consistent whole. Such a universal synthesis must the new philosophy provide, to form a sure basis for a new art of life. From the unequalled vastness of the work which Comte thus undertook, it is evident that, whatever may have been his weaknesses, none of them could have been the result of any lack of confidence in his own powers.

Historical analysis revealed to Comte, as a law of mental growth, the progress of all human conceptions through three distinct phases. The primitive stage he called the *theological;* the transition stage, the *metaphysical;* and the final stage, the *positive.* The meanings which he attaches to these words are concisely explained by Stuart Mill's translation of them into volitional, abstractional, experiential (see COMTE). The transition was effected by the gradual acceptance of the scientific method of induction from observation of phenomena as the only sound basis of explanation, all inquiry into causes other than phenomenal being finally given up as fruitless. Science, therefore, is the instrument capable of effecting the desired unity; and the problem of the positive philosophy is a three-fold one: (1) To bring all knowledge within the sphere of scientific investigation; (2) To extend scientific methods through the whole territory of each division; (3) To co-ordinate the results obtained from the separate sciences, so as to approach an expression of all our knowledge in terms of a single doctrine. All three parts of this problem Comte considered to be in large degree solved by his *Classification of the Sciences.*

He observed that the several classes of conceptions advanced from the theological to the positive stage with different degrees of facility, and on inquiring into the law of progression, he found that the order of emancipation of the various sciences was determined by the degree of complexity and the consequent relations of dependence. A preliminary distinction was made between the abstract and the concrete sciences, the former treating separately of the general laws manifested by all the phenomena of any class, and the latter depending on these and treating of definite objects under the several aspects in which they may be viewed. The concrete sciences, Comte considered, did not yet admit of co-ordination, and he confined his classification to the abstract sciences, which he placed in the following series: 1. Mathematics; 2. Astronomy; 3. Physics; 4. Chemistry; 5. Biology; each of these drawing its data from the preceding science, and adding a new order of conceptions peculiar to itself. This series he found coincident with the sphere of knowledge then supposed to admit of scientific treatment. But there remained the phenomena of human character and society, forming a wide field of inquiry to which positive methods had never yet been applied. Certain tentative efforts had indeed been made to construct a so-called science of history—notably by Condorcet and St. Simon—but no one before Comte had formulated the principles on which such a task might be accomplished. By his discovery of the methods proper to a rational study of social phenomena, his dicta—that owing to the complexity of the conditions involved, the laws of such phenomena cannot be determined *a priori*, but must be inductively observed, and afterward verified and coordinated by deductive application of the general laws of life; that the statical condition of each historical period must be viewed in its totality, as determined by the interaction of the various classes of social factors; that intellectual evolution affords the true measure of social progress;—by his enunciation of these and other doctrines, he sought to create Sociology, which he claimed to have established in the hierarchy as the last and crowning science of the series.

The whole realm of fact was now included in the domain of positive inquiry, and Comte next addressed himself to the task of rationalizing the separate departments of knowledge. In the earlier portion of this task, his mathematical aptitude insured him a measure of success; while in biology he opened the way for further developments by his organization of the materials then available. His main services, however, in scientific coordination are thought to have been in the department of sociology. Besides the formal constitution which he gave to the new science, his chief substantive contribution was his enunciation of the fundamental law of intellectual development, above referred to as the cardinal doctrine of the positive philosophy. The progress of thought, moreover, from theological to positive conceptions, was regarded by him as historically coincident with a progression in social action from an aggressive militarism, through a period of defensive attitude to the final régime of industrialism. The two series of transitions are mutually dependent, our increasing knowledge of the conditions of our existence, and our systematic efforts to modify them, naturally reacting on each other.

The main problem of the positive philosophy, the unification of knowledge, was not yet ripe for its final solution in the days of Comte, but his classification of the sciences is regarded by his followers as affording an admirable framework for the theory of evolution advanced at a later date with the claim of supplying this want; and the support may probably be considered adequate to the weight of the material. Comte was fain to be content with the demonstration of a subjective unity in the subservience of all the sciences to the needs of man.

Positive Polity.—On the basis of the philosophy that he had thus established, Comte founded a scheme of individual and social conduct. The ethical portion he did not live to complete, but in his elaborate exposition of the art of social politics, we have ample insight into his views on what he considered an integral part of his system. We have space here for only a bare outline of his theory.

The most complete life must be that which rests on the fullest knowledge. We naturally strive to improve those conditions of our existence which we can effect, in the direction indicated by the clearer light of a new synthesis. What, then, are the evils or imperfections of our lot which may be remedied by applying positive philosophy to life? Cosmical laws are wholly beyond our direct influence, and we can only to a limited extent affect the conditions of their action. But in the science of man we ourselves are the factors, and our efforts to modify our environment form the subjective aspect of what is, objectively considered, a law of social development.

Comte believed the first requisite of systematic action to be the recognition of a central intellectual and moral authority dissociated from practical politics, which he proposed to secure by organizing a *Spiritual Power*, consisting of philosophers, supported by the state. This class, exerting a purely *moral* control, yet supreme in all affairs of private and social life in virtue of its natural prestige, would have only an indirect influence on political action. The temporal power should be in the hands of capitalists, the captains of industry—chosen by their own order and naming their successors—who would feel a moral responsibility to the spiritual power, especially when the authority of the thinkers should be strengthened by the support of women and of the working classes, whose ready adherence to positive principles Comte firmly anticipated.

Besides the corrective influence of each of these powers on the other, an efficient check on despotic control on the part of either is provided in the perfect freedom of opinion and expression allowed—a freedom the more valuable in that it would rest on a system of scientific and moral education, which it would be one of the chief functions of the spiritual power to direct and enforce.

With the decline of militarism and the growth of industrialism, Comte foresaw that political action would in the future be directed mainly on organization of labor for the benefit of society at large. No idleness would be permitted; all would be workers. The distinction between the capitalists and the workmen, the rich and the relatively poor, would remain; but the former would be taught to hold their wealth and power as in trust from society to be used for the benefit of all, while the latter also would come to regard themselves as performing public functions, serving society each in his place. These views are substantially similar to such more recent economic teaching as that of Carlyle and Ruskin.

In the sphere of morals, the main office of the spiritual power would be to strengthen the social tendencies of man at the expense of the personal, a process made possible by the development of the affections called forth originally in family life. In the sphere of intellect, it should regulate and concentrate the labors of its members, putting an end to the present 'dispersive specialty' of scientific aims, and determining the direction of all intellectual efforts by reference to social needs. In pursuance of the constructive principle of P., Comte applies these general doctrines to the immediate future, by propounding a scheme of concerted action in Europe for a great Western Republic, embracing the French, English, German, Italian, and Spanish nations—heretofore imperfectly organized by the influence of Feudalism and Christianity.

Positivist Religion.—Beside the creed and the practice of P., a religion is requisite: there must be a sentiment, an appeal to the heart, a satisfaction of the feelings. The conception of an object of love and reverence proposed by Comte to succeed the idea of a Deity (whose existence he considered it impossible either to affirm or deny), is that of *Humanity* regarded as a collective unity, a *great being*, consisting of all the men and women past, present, and to come, whose lives have been or shall be devoted to the well-being and progress of the race. This being, partly ideal yet wholly real, capable of being definitely conceived, and not beyond the reach of our services, would gather round it all our affections for our fellow-men; gratitude and reverence for those whose struggles and achievements in the past have made us what we are; love and sympathy for all around us who are striving after better things; hope and effort for the more perfect life of those yet unborn. Comte looked on the religion of humanity as fulfilling all the highest aims sought by the religions of the past, and especially as succeeding naturally to Christianity, the historical value of which he thoroughly accepted as a transitional phase of religious development. The worship of humanity was to consist in prayer, taking the form of high resolve strengthened by effort after ideal communion with the noble spirits among the dead; and in public commemorations, for the observance of which a calendar was suggested, associating each day of the year with some great name in the roll of mankind, and arranged to illustrate the course of human progress. The spiritual power would carry on the traditions of the priesthoods of former religions, preaching self-abnegation as the rule of life bringing the highest happiness, and offering no reward, save a place in the 'choir invisible' of the great and good, whose names are cherished in the hearts of those who follow them, and whose influence will live to the end of time.

P. is of too recent origin to be adequately treated except in an account of its genesis, and the above outline of the system has therefore been confined to the works of its founder. In his lifetime, Comte attached to himself a small body of disciples noted for intellectual eminence. The most prominent was Littré (q.v.) who afterward edited his master's works, and who established a review, *La Philosophie Positive*. His discipleship, however, did not extend to the later developments of the system. Near the end of his life, Comte founded the Positivist Society, the present director of which is Pierre Laffitte. The organization has its headquarters in Paris, but it has extended to other countries, and the number of adherents is claimed to be slowly increasing. The *Revue Occidentale*, their organ in the press, is published quarterly in Paris. Among the best known English Positivists are Dr. Congreve, Frederic Harrison, Dr. Bridges, and Prof. Beesly.

Among sympathetic critics of P. are many thinkers of eminence imbued with the positive spirit, who have more or less been stimulated by Comte. Stuart Mill, in *Auguste Comte and Positivism*, though taking an independent stand, speaks in terms of high appreciation not only of the leading doctrines of the positive philosophy, but also of the conception of humanity as a *Grand Etre*, which is the keystone of the new religion. Many of the details of ritual and worship, however, were repugnant to him, as they have proved to many; and while exaggerating the importance of these, he makes an arbitrary separation between the earlier and the later portions of Comte's career. With his book should be read Dr. Bridges's reply, *The Unity of Comte's Life and Doctrines*. Herbert Spencer, though he may be regarded as owing much to Comte, has been more careful to vindicate his independence than to acknowledge his obligation: his references to his predecessor mostly concern their disagreements. In two essays, *The Genesis of Science*, and *The Classification of the Sciences*, he opposes Comte's views on these subjects—not to the satisfaction of other competent critics—and he has published an article entitled *Reasons for Dissenting from the Philosophy of M. Comte*. Spencer's exposition of the theory of evolution is regarded by Positivists as a valuable contribution to that scientific philosophy, the inauguration of which they claim for their master. George H. Lewes, in the chapter on Comte in *History of Philosophy*, enthusiastically calls him the greatest thinker of modern times, and declares himself an ardent adherent of the positive philosophy; though for the religious aspects of P., Lewes's feeling is one of only partial sympathy. In 'George Eliot's' works, the influence of Comte's doctrines is evident, and one of her best known poems is an interpretation of the positivist conception of immortality.

Among critics wholly antagonistic to P. are naturally the theologians and so-called metaphysicians, i.e., all whose explanations of phenomena either recognize or assume the action of supernatural beings, or are expressed in terms of abstractions such as *vital principle*, *inherent tendency*, *nature*. Such thinkers generally profess little knowledge of scientific fact; but with these are included as opposers of P. many scientific specialists whose view, concentrated on separate departments, of the phenomenal world, is by Positivists considered unfitted for general conceptions. The opposition of these various classes is declared by the disciples of Comte to be due to the refusal of P. to recognize the claims of such modes of thought to other than a historical importance. Meanwhile the opposers of P. declare the system a product of brilliant philosophic self-conceit, theorizing in a realm of mist, and then with all the dogmatism of both science and theology, declaring its theorizing the positive and final truth.

POSOLOGY, n. *pō-zŏl′ŏ-jĭ* [Gr. *posos*, how much; *logos*, discourse]: the branch of medicine which treats of quantity or doses. POSOLOGICAL, a. *pō′zō-lŏj′ĭ-kăl*, of or pertaining to quantities or doses in medicine.

POSSE, n. *pŏs′sĕ* [L. *possĕ*, to be able—the first word of *possĕ comĭtātus*, number of persons able to attend]: the civil power of a county that may be called to attend a sheriff or other peace officer in the execution of justice or for preservation of the public peace: familiarly, a number or crowd of persons, as of the police. In case of forcible resistance, the peace officer may command the assistance of all or any persons as requisite, and it is an indictable offense for any to refuse; but certain persons are exempt, not being considered a part of the power of the county—e.g., women, minors under the age of 15, etc.

POSSESS, v. *pŏz-zĕs′* [L. *possessus*—from *possidērĕ*, to have and hold, to be master of: It. *possedere:* F. *posséder*]: to have or hold as an owner; to enjoy; to occupy; to hold the title of, as the rightful proprietor; to have power over, or to affect by some invisible power; in *OE.*, to acquaint; inform. POSSES′SING, imp. POSSESSED′, pp. *-zĕst′*. **POSSES′SOR**, n. *-sėr*, one who possesses; the owner. **POSSES′SION**, n. *-zĕsh′ŭn* [F.—L.]: state of owning or having in one's own power; that which is possessed; occupancy; property (see POSSESSION OF PROPERTY): state of being under the power of invisible beings; madness. **POSSES′SIVE**, a. *-zĕs′sĭv* [F. *possessif*—from L. *possessīvus*]: having possession; in *gram.*, denoting the genitive case in nouns; in *Eng. gram.*, when one noun possesses another it is said to be in the possessive case, and terminates in the mark '*s* or '. **POSSES′SIVELY**, ad. *-lĭ*. **POSSES′SORY**, a. *-sėr-ĭ*, having possession. **TO POSSESS WITH**, to furnish or fill with. **TO GIVE POSSESSION**, to put in another's power or occupancy. **TO TAKE POSSESSION**, to bring within one's power or occupancy; to enter on. **WRIT OF POSSESSION**, the written order of a court of law directing a sheriff to put a person into possession of property recovered by legal process.—SYN. of 'possess': to have; hold; own; enjoy; occupy; seize; control;—of 'possessor': owner; master; holder; occupant; proprietor.

POSSES′SION OF PROPERTY, in Law: the most intimate relation that can subsist between the owner and his property. Strictly speaking, the idea of property consists merely of a certain relation between a human being and a portion of external nature, whereby he appropriates to himself all the uses, not harmful to the general welfare, of which such external nature is capable. If it is land, he reaps the fruits, and excludes all other persons from interfering with his operations; if it is a chattel, he keeps it under his exclusive control. Possession, therefore, is nothing but the legal result of the relation of property. Possession, though originally constituting the whole substance of property, has, as civilization advanced, become a separable part of it; and while the radical right is now the ownership, the possession is viewed as an incident of such ownership. It is now not only separable but saleable, and constitutes the foundation of the contract between landlord and tenant, whereby the owner, by way of a lease, sells for a limited period the exclusive use, otherwise called the possession. So long, therefore, as an owner exists, he has, as a necessary consequence, the right, more or less immediately and directly, to the possession of property. When all record of ownership is lost, then the law permits a resort to first principles, and allows any person who has been in possession for a limited time to retain it, and so ultimately acquire the ownership. If the possession is suddenly or wrongfully interfered with, a usual remedy, to recover possession of real property, such as land or houses, is an action of ejectment; if the property is a chattel, it is an action of trover or detinue: there may be recovery by other modes.—See OWNERSHIP: LOST PROPERTY: PRESCRIPTION, in Law.

POSSET, n. *pŏs′sĕt* [OF. *posque*—from L. *posca*, a drink of vinegar and water: perhaps also connected with W. *posel*, curdled milk: comp. Ir. *pusoid*, a posset]: dietetic preparation, made by curdling milk with some acidulous liquor, e.g., wine, ale, or vinegar. White wine or sherry is usually preferred, but sometimes old ale is used. The milk is boiled; and while it is still on the fire, the acidulous matter is added; if sherry, about a wine-glassful and a half to the pint of new milk is the proportion; or twice the quantity if ale. A teaspoonful of vinegar or of lemon-juice is sometimes used instead; one or two tablespoonfuls of treacle are added, to sweeten. It is taken at bedtime for colds and coughs. POSSET, v. in *OE.*, to curdle, as milk with acids; to turn.

POSSIBLE, a. *pŏs′sĭ-bl* [F. *possible*—from L. *possĭbĭlis*, that may be done—from *possĕ*, to be able: It. *possibile*]: that may happen; that can be done; barely able to come to pass; practicable; not contrary to the nature of things; feasible. POS′SIBLY, ad. *-blĭ*, by any power really existing; perhaps; peradventure; perchance. POS′SIBIL′ITY, n. *-bĭl′ĭ-tĭ* [F. *possibilité*]: the state of being possible; the power of being or existing; that which is possible; a contingency.

POST, n. *pōst* [F. *poste*, a post or place, a station, relays of horses—from mid. L. *posta*, a station: L. *postis*, a doorpost; *posĭtus*, placed; *pōno*, I place]: a piece of timber placed upright, generally as a support for something else; a station for soldiers, and also the soldiers stationed at it; in *mil.*, a bugle sound or call; a place or situation; the station of duty; employment; a messenger who carries letters regularly from place to place; a quick or speedy manner of travelling (see POSTING): the post-office; the mail; a size of printing and writing paper; a miner's or quarryman's term for any compact stratum of sandstone or limestone: V. to travel with speed, as by relays of horses; to send with speed; to place; to station; to fix; to assign; to advertise by putting a placard on a wall or a post; to expose to public shame, as a defaulter; to place letters in the post-office; in *book-keeping*, to carry the entries from other books to the ledger: ADJ. speedy, as by post: AD. in haste; hastily. POST′ING, imp.: ADJ. travelling with speed (see below): relating to an establishment where post-chaises and post-horses can be obtained on hire. POST′ER, n. *-ėr*, one who posts; a courier; a large printed bill for posting. POST′ED, pp. POST′AGE, n. *-āj*, the money paid for the conveyance of letters by post. POST′AL, a. *-ăl*, relating to posting or mails. POST-BAG, a mail-bag. POST-BOY, a courier; a boy or man who rides the horse, or one of the horses of a post-chaise. POST-CAPTAIN, obsolete title in the Brit. navy, formerly applied to a capt. who was entered or *posted* as such—to distinguish him from a commander, to whom the title captain is sometimes given by courtesy. POST-CHAISE, a carriage for conveying travellers from one place to another for hire. POST-HASTE, with speed.

POST-HORSE, a horse stationed for the use of couriers. POST-HOUSE, a house where relays of horses are kept. POSTMAN, a letter-carrier. POSTMARK, the stamp of a post-office on a letter. POSTMASTER, one who has the superintendence and direction of a post-office. POSTMASTER-GENERAL, the chief executive head of everything connected with the national postal system; in the United States, a member of the cabinet, and occasionally so in Britain. POST-OFFICE, office where letters are received for transmission to various parts, and from which letters are delivered that have been received (see below). POST-OFFICE DIRECTORY, in British towns, a book containing the names of the inhabitants, with their residences, trades, occupations, or professions, together with a variety of other useful and postal information. POST-OFFICE ORDER: see MONEY-ORDER, under MONEY. POST-PAID, a. having the price for the carriage of the letter paid in advance, usually in the form of a stamp on the letter itself. POST PAPER, letter-paper of a large size. POST-TOWN, a town having a regular post-office. POSTAGE-STAMP, an adhesive govt. stamp, of different values, for affixing to letters or parcels to be sent by post. FROM PILLAR TO POST, to and fro; from one position to another. KNIGHT OF THE POST, one who gains his living by false evidence; a sharper. POSTED UP IN A SUBJECT, thoroughly well informed about it.

POST-, *pōst* [L. *post*, behind, after]: a common prefix, signifying 'behind; after; afterward; subsequent.'

POST, ALFRED CHARLES, M.D., LL.D.: surgeon: 1806, Jan. 13—1886, Feb. 7; b. New York; nephew of Wright P., M.D. He graduated at Columbia College 1822, studied medicine with his uncle, graduated at the College of Physicians and Surgeons 1827, and applied himself chiefly to surgery in New York. He was demonstrator of anatomy in the College of Physicians and Surgeons 1831–35; prof. of surgery in the Univ. of the City of New York 1851–75 and pres. of its medical faculty from 1873 till his death; and was noted for the success and boldness of his operations and his skill in devising surgical apparatus.

POST, TRUMAN MARCELLUS, D.D.: Congregational minister and scholar: 1810, June 3—1886, Dec. 31; b. Middlebury, Vt. He graduated at Middlebury Coll. 1829; was principal of the Castleton Acad. 1829–30; and tutor at Middlebury 1830–32. After a course of private study in law, pursued in connection with teaching, he began practice at Jacksonville, Ill., but the same year, 1833, was elected prof. of anc. languages in Illinois Coll., situated there; subsequently, he had the chair of history. In 1840, having been licensed to preach, as the custom is with many teachers in religious colleges, he occupied the pulpit of the Congl. Church in Jacksonville; 1847, was pastor of the Third Presb. Church in St. Louis; 1851, and until his death, ministered to the First Congl. Church in the same city, meanwhile acting as prof. of history in the Washington Univ. there, and for two years, 1873–75, giving lectures on Congl. polity and history at Andover Theol. Seminary; also, for some years, filling the chair of eccles. hist. in the Chicago Theol. Seminary. He had remarkable powers as a thinker, and much vigor and beauty of style. He was a contributor to theol. periodicals, and pub. *The Sceptical Era of Modern History* (1856).

POST, WRIGHT, M.D.: surgeon: 1766, Feb. 19—1828, June 14; b. North Hempstead, N. Y. After studying medicine in this country and in London, he commenced practice in New York 1786. The following year he lectured at the New York Hospital, was prof of surgery in Columbia College 1792, and of anatomy 1793–1813, became prof. in the College of Physicians and Surgeons 1813, and was its pres. 1821–26. He was one of the most brilliant operative surgeons of his time, was a member of Amer. and foreign societies, and published many articles and lectures. He died at Throg's Neck, N. Y.

POSTAL INSURANCE: POSTAL SAVINGS BANKS: POSTAL SERVICE: etc.: see POST-OFFICE.

POST-DATE, v. *pōst-dāt′* [L. *post*, after, and Eng. *date*]: to date a document in advance of the real date on which it was written; to after-date. POST-DATED, a. dated in advance.

POSTDILUVIAL, a. *pōst′dĭ-lô′vĭ-ăl* [L. *post*, after; *diluv′ĭum*, the deluge]: happening after the flood of Noah. POST′DILU′VIAN, n. *-ăn*, one who lived after the flood, or who has lived since the deluge.

POST-ENTRY, n. *pōst-ĕn′trĭ* [L. *post*, after, and Eng. *entry*]: a second or subsequent entry.

POSTE-RESTANTE, *pōst-rĕs-tângt′* [Fr. *poste*, post office, mail; *restante*, lying over, remaining]: in a free-delivery post-office, the dept. of letters waiting to be called for. In the United States every post-office, except the comparatively few offices which have the delivery system, is a P.-R. Such a dept. is a convenience to persons travelling, whose letters can thus await them at certain points. The term is applied also to a written or printed superscription on a letter or other mail package, as an instruction to the receiving postmaster to hold the package till called for by the person addressed. In the United States and other English-speaking countries, it is preferable to write—'Keep till called for.' The time for holding unclaimed correspondence addressed 'P.-R.,' in the countries comprising the Universal Postal Union, is as follows: Costa Rica 10 days; Gr. Brit., Ger., Peru, Salvador, 1 mo. domestic, 2 mos. foreign; Netherlands W. Indies 1 mo. from Venezuela and W. Indies, 2 mos. elsewhere; Cyprus, Dominica, Montserrat, 1 mo.; Ceylon 1 mo., sea-travellers 3 mos.; Siberia 1 mo. for w. Africa, 3 mos. elsewhere; Antigua, Austria, Bahamas, Barbadoes, Bermuda, Brit. Honduras, Egypt, France, Grenada, Hungary, Italy, Paraguay, Roumania, Servia, Spain, Trinidad, St. Christopher, St. Lucia, Turk's Island, and Virgin Island, 2 mos.; Dutch Guiana 2 mos. domestic, no limit foreign; Japan 2 mos. at receiving office, afterward indefinite at dead-letter office; Canada 2 mos. in co. offices, 1 mo. in city offices, indefinite in dead-letter office; Netherlands 6 weeks; Denmark 2 mos. from Germany, 3 mos. elsewhere; Brit. Guiana 2 mos. general, 3–4 mos. special; San Domingo 2 mos. domestic, 3 mos. foreign; Jamaica 4 weeks domestic, 8 weeks foreign; Brazil, U. S. of Colombia, Danish W. Indies, French colonies, Gambria, Gold Coast, Lagos, Greece, Luxemburg, Montenegro, Newfoundland, Norway, Persia, Switzerland, Tobago, U. S. of America, 3 mos.; Belgium till 5th of 3d mo. following arrival; Hong-Kong 3 mos., sea-travellers 4 mos.; Falkland Islands 3 mos., sailing-vessel travellers 6 mos.; Sweden generally till end of quarter following arrival, then sent to central office; Russia and Bulgaria 4 mos.; Brit. India 1–4 mos., according to destination; Guatemala, Hawaii, Mexico, St. Vincent, Straits Settlements, Turkey, 6 mos.; Portugal 6 mos. domestic, 3 mos. foreign; Sierra Leone 6 mos., for person dead or removed from colony sooner; Netherlands E. Indies, 3 mos. at destination, then three months at central office; Chili 3 mos. destination, then 6 mos. central; Nicaragua 6 mos. destination, then 6 mos. central; Argentine Republic 9 mos. destination, then 3 mos. central; Honduras, Hayti, Mauritius, Uruguay 1 yr.; Venezuela 2 yrs.; and Labuan till failure of all means to deliver.

POSTERIOR, a. *pŏs-tē'rĭ-ėr* [L. *posterĭor*, the comp. deg. of *postĕrus*, coming after]: later in time or place; coming after; hinder; in *bot.*, applied to the part of the flower next the axis—same as *superior*. POSTE'RIORLY, ad. *-lĭ*. POSTE'RIOR'ITY, n. *-ŏr'ĭ-tĭ*, state of being later or after. POSTE'RIORS, n. *-ėrz*, the hinder parts of an animal. POSTERITY, n. *pŏs-tĕr'ĭ-tĭ* [F. *postérité*—from L. *postĕr'ĭtas*, futurity]: descendants; succeeding generations; opposed to *ancestors*.

POSTERIORI: see A POSTERIORI.

POSTERN, n. *pŏs'tėrn* or *pōst'ėrn* [OF. *posterle*, *posterne;* F. *poterne;* It. *posterla;* L. *poster'ŭla*, a back door —from *postĕrus*, behind]: any small door or gate; a private entrance: in *fort.*, a vaulted passage (called often the *sally-port*) constructed under the mass of the parapet and through the rampart communicating through the flank of the bastion between the fort and the ditch. Its object is to afford unseen egress to troops marching out to relieve sentries on the external works, or to make sudden sallies, etc.: ADJ. behind; private.

POST-EXIL'IC, a.: pertaining to, occurring in, or connected with the period in Jewish history after the Babylonian captivity.

POST FACTO, *pōst făk'tō* [L. *post*, after; *factum*, an act, a deed]: after the act has been committed; a *post facto law*, a retrospective law.

POSTFIX, n. *pōst'fĭks* [L. *post*, after; *fixus*, fixed]: letters, or a syllable, placed at the end of a word; an affix: V. to place behind or at the end; to place letters, or a syllable, at the end of a word; to affix.

POSTHUMOUS, a. *pŏst′ū-mŭs* [F. *posthume;* It. and Sp. *postumo*, posthumous—from L. *postumus*, the last, the hindmost—from *postĕrus*, coming after]: born after the death of a father, as a child; or taken from the body of a mother after her death. The law regards a P. child as already born at the time of the parent's death, and thus as entitled to such share in the parent's property under a will as it would have been entitled to had its parent lived till after its birth.—Applied to a book, the term means published after the death of an author: in general, occurring or arising after one's decease. POST′HUMOUSLY, ad. *-lĭ*. *Note.*—This word should be written POSTUMOUS, according to its etymology: it owes its present form to the erroneous idea that it is derived from L. *post*, after; *humus*, the ground.

POSTICOUS, a. *pŏst′ĭ-kŭs* [L. *posticus*, hinder]: in *bot.*, applied to anthers when they open on the outer surface —same as *extrorse*, which see; opposed to *anticous*.

POSTICUM, n. *pōst′ĭ-kŭm* [L.]: in *Rom. arch.*, part of a temple in the rear of the cell; the part in front being called pronaos.

POSTIL, n. *pŏs′tĭl* [L. *post illa*, i.e., *post illa verba*, after these words: Sp. *postila;* It. *postilla*, a postil]: a marginal note, originally in the Bible; in the *R. Cath. Chh.*, a homily read after the Gospel.

POSTILION, n. *pōs-tĭl′yŭn* [F. *postillon*, a postilion—from It. *postiglione; posta*, a messenger (see also POST)]: the rider on the near leader in a carriage with four horses; also the rider of one horse when one pair only is used.

POSTING, *pōst′ĭng:* forwarding of passengers by means of relays of horses: also travelling by such relays. The application of the same words—post and postmaster—in connection with the transmission of letters and with the stations where post-horses are kept, is, in Europe a source of ambiguity. P. was long in Britain, as it is yet in most parts of the continent, a govt. monopoly. A statute of Edward VI. fixed the charges of P. at 1*d.* (2 cents) per mile 1548. The post-office act of 1656 confirmed the monopoly of furnishing post-horses for travellers in favor of the postmaster and his deputies. P. has now for a long time been in the hands of private individuals. Post-chaises were used first in France, and were introduced into England early in the 18th c. The payment is estimated per mile for each pair of horses, without regard to the number of persons conveyed; and a second pair of horses is charged at the same rate as the first. On the continent generally, P. is managed by the state, which retains the monopoly of supplying post-horses, and usually of forwarding the mails and diligences. The prices are fixed by govt., as well as the number of horses that may be employed, which is regulated by the weight and number of persons conveyed.

POSTIQUE, *pōs-tēk′:* ornament in sculpture, marble, etc., applied or added after the work is otherwise finished.

POSTLUDE, n. *pōst′lūd* [L. *post*, after; *ludus*, a play]: in *mus.*, a concluding voluntary; an afterpiece.

POSTMERIDIAN, n. *pōst-mĕ-rĭd′ĭ-ăn* [L. *post*, after; *meridĭēs*, mid-day]: afternoon—usually contracted into P.M.: Adj. coming after the sun has passed the meridian.

POST-MORTEM, a. *pōst-mŏr′tĕm* [L. *post*, after; *mors* or *mortem*, death]: after death; made after death: N. an examination of a body made after death.

POST-NUPTIAL, a. *pōst-nŭp′shăl* [L. *post*, after; *nuptiæ*, marriage]: being or happening after marriage. Post-nuptial contract, in Scotch law, an agreement, or a settlement between husband and wife after marriage with a view to affect the property of the parties, and generally to make provision for the wife and children. See Husband and Wife.

POST-OBIT, n. *pōst-ō′bĭt* [L. *post*, after; *obitus*, death]: bond or security given by heirs and others entitled to reversionary interests, whereby, in consideration of a sum of money presently advanced, the debtor binds himself or his estate to pay a much larger sum after the death of some person, or of himself. Whenever, as is not unusual, the payment is uncertain, and depends on the obliger outliving somebody else, very high interest is required, or rather a very much larger sum is agreed to be repaid than what is advanced. These are generally usurious bargains; but the obligee or creditor can enforce payment of the full amount; though, if there is a gross inadequacy in the proportions amounting to fraud, a court of equity will interfere.

POST-OFFICE, *pōst′ŏf-fĭs:* place for reception and transmission or delivery of letters; also the management of the various departments and functions connected with their dispatch and conveyance. The name originated in the posts or stations [from Lat. *positum*, placed, fixed] at intervals along the roads of the old Roman empire, where couriers were kept in readiness to bear dispatches and intelligence; but those were never used for conveyance of private correspondence. The first letter-post seems to have been established in the Hanse Towns in the early part of the 13th c. A line of letter-posts followed, connecting Austria with Lombardy, in the reign of Emperor Maximilian—said to have been organized by the princes of Thurn and Taxis; and the representatives of the same house established another line of posts from Vienna to Brussels, connecting the most distant parts of the dominions of Charles V. This family continue to the present day to hold certain rights relative to the German postal system, their posts being entirely distinct from those established by the crown, and sometimes in rivalry to them.

In England, in early times, both public and private letters were sent by messengers, who, in the reign of Henry III., wore the royal livery. They had to provide themselves with horses until the reign of Edward I., when posts were established where horses were to be had for hire. Edward IV., when engaged in war with Scotland, had dispatches conveyed to his camp with great speed by a system of relays of horses, which fell into disuse on restoration of peace. Camden mentions the office of 'Master of the Postes' 1581, but the duties of that officer were probably connected exclusively with the supply of post-horses. The posts were meant for the conveyance of govt. dispatches alone, and it was only by degrees that permission was extended to private individuals to make use of them. A foreign post for conveyance of letters between London and the continent seems to have been established by foreign merchants in the 15th c.; and certain disputes which arose between the Flemings and Italians, regarding the right of appointing a postmaster, and were referred to the privy-council, led to the institution of a 'chief-postmaster,' who should have charge both of the English and the foreign post. Thomas Randolph was the first chief-postmaster of England. The first proper postal communication for private letters in England came into operation 100 years after the institution of the foreign post. The increased intercourse between the English and Scottish capitals, resulting from King James's accession, led to great improvement in the system of horse-posts, but their services were still confined to conveyance of govt. dispatches. James however instituted a foreign post for letters going abroad from England, and conferred the office of postmaster of England for foreign parts on 'Mathewe de Quester the elder, and Mathewe de Quester the younger.' This appointment was considered by Lord Stanhope, the

English chief-postmaster, to interfere with his functions; and a dispute and law-plea between the heads of the two establishments were settled 1632, after Charles I. had become king, by the retirement of Lord Stanhope, and an assignment of their office by the De Questers, under royal sanction, to William Frizell and Thomas Witherings. In 1635 Witherings was authorized to run a post night and day between London and Edinburgh, 'to go thither and back again in six days.' Eight main postal lines throughout England were at the same time instituted, and the post was allowed to carry inland letters. Two years later, a monopoly of letter-carrying was established, which has been preserved in all subsequent regulations of the P.-O. The rates of postage were 2*d.* (4 cents) for a single letter for a distance less than 80 m., 4*d.* (8 cents) up to 140 m., 6*d.* (12 cents) for any longer distance in England, and 8 *d.* (16 cents) to any place in Scotland. An attempt, 1649, by the common council of London to set up a rival P.-O. for inland letters, was suppressed by the house of commons. A practice of farming the P.-O. revenues, which began 1650, continued, as regards some of the by-posts, till the close of the 18th century.

An important P.-O. statute was passed under Oliver Cromwell's Protectorate 1656, and re-enacted after the restoration of the monarchy. It ruled that there should be one general post-office and one postmaster-gen. for England, who was to have the horsing of all through posts and persons riding post. A tariff was established for letters, English, Scotch, Irish, and foreign; and the only non-governmental posts allowed to continue were those of the universities and the Cinque Ports.

In 1685, a penny-post was set up for the conveyance of letters and parcels between different parts of London and its suburbs. It was a private speculation; and when its success became apparent, it was complained of by the Duke of York, on whom the P.-O. revenues had been settled, as an encroachment on his rights; a decision of the court of king's bench adjudged it to be a part of the royal establishment, and it was thereupon annexed to the crown. In this way began the London district-post, which was improved and made a twopenny-post 1801, and continued as a separate establishment from the general post till 1854.

The first legislative enactment for a Scottish P.-O. was passed 1695, prior to which time, the posts out of Edinburgh had been very few and irregular. About 1700, the posts between the capitals were so frequently robbed near the borders, that acts were passed both by the parliament of England and that of Scotland, making robbery of the post punishable with death and confiscation. The P.-O. of Ireland is of later date than that of Scotland. In the time of Charles I., packets between Dublin and Chester, and between Milford-Haven and Waterford, conveyed govt. dispatches; and after the

Restoration, the rate of letter-postage between London and Dublin was fixed at 6*d.* (12 cents).

Under Queen Anne a general post-office was instituted in London for all the British dominions, with chief offices in Edinburgh, Dublin, New York, and other places in the American colonies, and one in the Leeward Islands. The whole was placed under the control of an officer appointed under the Great Seal, called the Postmaster-general, who was empowered to appoint deputies for the chief offices. The rates were raised; and they were raised further under George III. After much opposition from the P.-O. authorities, mail-coaches protected by armed guards were substituted 1783, for the boys on horseback, who had till then conveyed the mail.

In 1837 the P.-O. was revolutionized according to a plan of Mr. (afterward Sir) Rowland Hill, whose three principal features were the adoption of a uniform and low rate of postage, a charge by weight, and prepayment. The change, strongly opposed by the P.-O. authorities, was eventually carried by a majority of 100 in the house of commons, and the new system came into full operation 1840, Jan. 10. Franking was entirely abolished. A penny (2 cents) was adopted as the uniform rate for every inland letter not above half an ounce. Facilities for prepayment were afforded by introduction of postage-stamps, and double postage was levied on letters not prepaid. Arrangements were made for the registration of letters; and the money-order office, by a reduction of the commission charged for orders, became available to an extent which it had never been before since its establishment 1792. The whole new plan brought enormous increase in correspondence, and has ever since been recognized as a public benefit of high order.

With the development of the railway system came the carriage of letters by train instead of by mail-coaches; and the adoption of travelling post-offices, forming part of the mail-train, where letters are arranged during transit, and which sometimes receive and drop the letter-bags while the train is going at full speed. During the year ending 1890, Mar. 31, the P.-O. dept. of the United Kingdom delivered 1,650,100,000 letters, and, including letters, postal cards, book packages, circulars, and newspapers, a total of 2,468,400,000 pieces. Of the aggregate, 85·2 per cent. were delivered in England and Wales, 29·8 per cent. in the London postal district, 9 per cent. in Scotland, and 5·8 per cent. in Ireland. Of the letters, 11,357,935 were registered. New offices were opened in 530 places, and 873 letter-boxes added, making the total receptacles 39,186, of which 18,359 were post-offices. The gross revenue of the dept., including savings-bank business, was $59,348,444, net $16,261,982; expenditure $43,086,461.

The postal service of the three kingdoms is under the immediate control of the postmaster-gen., assisted by the general sec. of the P.-O. in London. There are also chief officers in Edinburgh and Dublin, with secretarial and other departmental staffs. The postmaster-gen. is a member of the privy-council, sometimes a cabinet minister, has a salary of £2,500, and is the only officer connected with the dept. who leaves office on a change of govt. The sec. is his responsible adviser, and has a salary of £2,000. The receiver and accountant-gen. keeps account of the money received by each dept., receiving remittances from branch and provincial offices, and taking charge of the payment of all salaries, pensions, and items of current expenditure. The surveyors are the connecting link between the metropolitan and provincial offices, each postmaster, with some exceptions, being under the superintendence of the surveyor of his district. The permanent staff (1890, Mar. 31) comprised 61,054 persons, including 4,348 females, besides about 52,000 persons (15,700 females) employed by local postmasters.

Postal Savings Banks.—There is a system of savings banks in connection with the British P.-O. The rate of interest payable to depositors is 2½ per cent., calculated on complete pounds and complete months, being a halfpenny per pound per month. 1890, Mar. 31, savings-bank business was transacted in 9,353 offices; number of open accounts 4,507,809; deposits in year $96,477,536; principal and interest due depositors $306,178,153. A novel extension of this system took place in 1880. Blank forms, with twelve ruled spaces, are now issued to intending depositors, who may secure their penny savings by affixing ordinary postage-stamps to the form. When the twelve spaces are filled, the form is presented at the bank, and credit is given for a shilling. The Savings-bank Act (1880) permits the investment of small sums in government stocks; in Consols, Reduced, or New 3 Per Cents. The sums invested must not be less than £10, and must not exceed £100 in any one year; total sum for any one investor limited to £300.

Halfpenny post-cards were introduced 1870; in the first year 75 millions were used. The number (1880–1) reached 122 millions. The ordinary penny stamp is now a 'Postage and Inland Revenue' stamp, and may be used as a receipt stamp.

Postal Telegraph.—The govt. acquired the telegraph property of various private companies 1870, and established a special bureau of postal telegraphy in the P.-O. dept.—The charge for the transmission of messages by telegraph throughout the United Kingdom was originally 1*s.* for the first twenty words, and 3*d.* for each additional five words, or part of five words; but 1885 the rate for ordinary messages was reduced to ½*d.* a word, including address. Press telegrams cost 1*s.* for 100 words by day, and for 75 by night.

1890, Mar. 31, there were 7,342 postal-telegraph offices, which handled 50,813,354 telegrams, exclusive of foreign, press, and free messages. There is an annual deficit in the system, which 1888–9 was $1,068,791.

Money Orders.—Money may be transmitted to inland and foreign cities through the P.-O. by (1) postal orders, (2) money orders, and (3) telegraph money orders. The postal-order system was established 1881, money-order 1838, and telegraph money-order (for inland places) 1889. During the year ending 1890, Mar. 31, the total postal-order issues were 44,712,548, amount transmitted $86,205,717; money orders 9,391,575, amount $118,255,425; total orders 54,104,123, amount $204,461,142. The telegraph money-order system was still in an experimental state and without official returns. The maximum amount that could be forwarded by money orders and telegraph money orders was $50, and the denominations in postal orders mostly used were 24 cts., 60 cts., $1.20 and $4.80.

The home and foreign mail-packet service is in the hands of the post-office authorities. The principal foreign contracts are for the Indian and Chinese mails, entered into with the Peninsular and Oriental Steam-navigation Company, the mails to N. and S. America, the W. Indies, the Australian colonies, and the Cape.

Postal Insurance.—Previous additions to the original P.-O. service of Great Britain had been found to work so satisfactorily—e.g., book-post, sample-post, money orders, and postal savings banks—that the legislature was encouraged to intrust to the same organization a complete system of insuring lives and granting annuities—intended specially to foster provident habits among persons whose savings can be but small.

An act of parliament 1853 improved the insurance law, by facilitating the purchase of govt. annuities through the medium of the saving banks; and in 1864 another statute gave great improvement and extension to the system. Great facilities are introduced by this act for effecting small life insurances, or for securing annuities by small payments. Not only may the National Debt Commissioners employ the trustees of savings banks to receive and pay the moneys, at a certain rate of remuneration; but the postmaster-gen. joins in the arrangement, acting as a medium between the public on the one hand and the commissioners on the other. Ample tables and regulations are printed, for guidance of the commissioners, the postmaster-gen., and the local postmasters throughout the kingdom. On the completion of these tables and regulations 1865, the practical working of the system began. The tables of the premiums to be charged for life insurances, for immediate annuities, for deferred annuities, and for deferred monthly allowances, are sold by the government printers, at cost of paper and printing; and similar tables are kept for inspection at the local post-offices without charge: at these offices also the proposals for insurance may be entered. All this is offered free of risk; since the credit of the nation itself is pledged to meet the obligation purchased by the subscription or by the payment of the contributor. All persons insuring their lives or purchasing annuities become, if not already so, savings-bank depositors, and premiums are payable through savings-bank accounts, and are deducted therefrom without trouble to depositors. Persons of either sex may insure their lives with the P.-O. for any amount not less than $25 or more than $500, the limits of age being 14 years as the minimum and 65 as the maximum, or 8 years as the minimum if the amount insured does not exceed $25. Insurance for sums not exceeding $125 is granted without medical examination; but if the insurer die before the second premium becomes payable, only the amount of his first premium will be paid, and if he die before the third premium is payable, only half the sum insured becomes due to his representatives. In either case if it can be proved that the death of the insured was caused by accident, the full amount will be paid. The premiums charged for life insurance vary with the age of the person insuring, and with the mode in which they are to be paid. A life policy may be surrendered after two years' premiums have been paid; and insurers not under 16 years of age may nominate a person to whom the money due at death is to be paid.—Immediate or deferred annuities are also granted to any person not under 5 years of age for any amount not less than $5 or more than $500, and deferred annuities are granted with or without the return of the purchase money. Husband and wife may each be insured to the full amount of $500, or purchase an annuity of $500. The system of postal insurance has not met with the success anticipated. Official reports (1890, Jan. 1) showed 6,301 policies in force; premium receipts $73,424; claims paid $36,318; total premium receipts since the establishment of the system $1,098,695.

The post-office statute of Queen Anne contains a prohibition, repeated in subsequent acts, for any person employed in the post-office to open or detain a letter, except under a warrant from one of the principal secretaries of state. During the 18th c., such warrants were often granted on very trivial pretenses. In 1723, at Bp. Atterbury's trial, copies of his letters, intercepted at the post-office, were produced in evidence against him; and 1735 it appeared that an organization existed, at immense expense, for examination of domestic and foreign correspondence. In 1782 the correspondence of Lord Temple, when lord-lieut. of Ireland, was subjected to a system of post-office espionage. In the beginning of the 19th c. new safeguards were adopted; and in the ten years 1843–53, only six letters were detained and opened —four in cases of felony, and two that they might be properly returned to those who claimed them. One such case of interference with the privacy of correspondence occurred 1844, when a warrant was issued for opening the letters of Mazzini, and certain information contained in them was conveyed to the Austrian minister—an act which occasioned great popular animadversion: see GRAHAM, Sir JAMES.

The Universal Postal Union.—1874, Oct., a conference at Berne resulted in the establishment of the 'General Postal Union,' embracing all the European countries, with Egypt and the United States, and resulting in a great simplification of international postal arrangements. This was followed 1878, June, by the treaty of Paris, signed or subsequently adhered to by all the parties to the former treaty, with the addition of British India, the colonies of France, Spain, Holland, and Portugal, various British colonies, Persia, Japan, Liberia, Brazil, Peru, Mexico, etc., the new convention receiving the name 'Universal Postal Union.' Under this important treaty, all the consenting nations were declared 'a single postal territory for the reciprocal exchange of correspondence.' Equal rates, weights, and rules are established, and considerable reductions of postage have followed. Statistics of 1888, published by the international bureau at Berne 1890, showed that there were 34 countries in the Postal Union, which had 160,321 post-offices, 589,847 officers and employés, 304,937 m. of railroad postal-routes, and 949.779 m. of all other routes. The United States had 58,369 offices; 90,388 officers and employés; 144,557 m. of railroad and 261,792 m. of all other postal routes; received 38,451,364 letters, 1,840,608 postal cards, 35,341,146 prints and commercial papers, and 868,042 packages of samples; dispatched 43,510,036 letters, 1,860,924 postal cards, 43,331,976 prints and commercial papers, and 375,638 packages of samples; postal income $52,695,190.20, and expenditure $56,468,315.21.

United States Post-office.—The postal history of the United States dates from the early settlement of the English in Mass. The service was conducted originally for mutual convenience and by the co-operation of the settlers. As the colony increased in numbers and sailing vessels began making regular trips between England and America, the coffee-house in Boston, which was the general rendezvous for the narration and discussion of the news of the day, was naturally selected as the place of deposit and delivery of letters and packages to and from Europe. The first attempt to organize the service legally and systematically was made by the general court of Mass. 1639, when it designated Richard Fairbanks of Boston as agent to receive and deliver all letters, and authorized him to collect one penny for every letter handled by him. In 1657 the colony of Va. enacted a law requiring 'every planter to provide a messenger to convey the dispatches, as they arrived, to the next plantation, and so on' till they reached their destination, 'on pain of forfeiting a hogshead of tobacco for default.' Inter-colonial methods of forwarding communications soon followed. In 1672 a monthly service between New York and Boston was established by the colony of N. Y.; 1673 the general court of Mass. ordered that dispatch messengers be paid at the rate of 3*d.* per M.; 1677 the same authority appointed John

Haywood to receive and distribute foreign letters arriving in Boston; and 1680 he became postmaster for the entire colony. Further inland, William Penn established a general office in Philadelphia 1683, and organized a weekly service between that city and several points in Md.; and the colony of N. H. established a service 1693. These acts all were colonial in conception and management, absolutely independent of the postal system of Great Britain. But 1660 the British parliament passed a bill to systematize and regulate postal communication with the colonies, under which Thomas Neale was recognized as royal postal agent in Va. 1692, and in N. H. 1693. In 1704 the office of royal deputy postmaster-gen. in America was created, and 1710 New York was made the American headquarters of the consolidated postal service of Great Britain. Rates of postage for the colonies were established by parliament during the reign of Queen Anne. Benjamin Franklin was appointed postmaster at Philadelphia 1737, and was commissioned deputy postmaster-gen. for the colonies 1753. He may be justly styled the father of the American postal system. Under his administration were inaugurated the delivery of mail matter at the residences of persons addressed, advertising of unclaimed letters in newspapers, tri-weekly mail between New York and Philadelphia, and weekly mail the year round between Philadelphia and New England, and the stage mail service. In 1774 Franklin was dismissed from his office, and in the following year the continental congress created a post-office dept., established post-routes from Falmouth, Me., to Savannah, Ga., and appointed Franklin postmaster-gen.; though by reason of his diplomatic service abroad, his son-in-law, Richard Bache, was subsequently appointed to the office. In 1789 the control of the entire system passed from the continental to the constitutional govt., and by act of congress 1794, May 8, the post-office dept. was established as one of the executive branches of the govt. Nine rates of postage, all comparatively excessive, fixed by law 1792, were maintained nearly 50 years. The first postmaster-gen. of the reorganized dept. was Samuel Osgood, appointed 1789, Sep. 26.

Rates of Postage.—(1891), postal cards 1 ct.; letters 2 cts. per oz. or fraction thereof; second-class matter or regular publications 1 ct. per lb.; third-class matter or transient publications and all other kinds of printed matter 1. ct. for each 2 oz.; fourth-class or merchandise 1 ct. per ounce. Foreign postage to countries in Universal Postal Union postal cards 2 cts.; letters 5 cts. per $\frac{1}{2}$ oz.; printed matter 1 ct. for every 2 oz.; merchandise samples, less than 4 oz., 2 cts., more than 4 oz., 1 ct. for every 2 oz. Double rates are charged for non-prepaid foreign letters, and a fee of 10 cts. for registering letters or other articles. Congress has given special franking privileges for life to the widows of ex-presidents of the United States. All public documents printed by order of congress may be sent through the mail free by U. S. senators, representatives, terr. delegates, sec. of the senate, and clerk of the house; and agricultural reports and seeds, and publications of the Smithsonian Institution, also may be sent free on proper indorsement.

General Service.—The report of the postmaster-gen. for the year ending 1890, June 30, showed star, regulation wagon, special office, mail messenger, steamboat, railroad, and railway post-office car services; total routes 27,105; length 427,990·72 m.; annual rate of expenditure $36,693,437·07; miles traveled per annum 327,409,493.02; post-offices, 1st class 102, 2d class 517, presidential 2,738, 3d class 2,119, 4th class 59,663, total 62,401; net revenue $60,858,783.40, net expenditure and liabilities $66,645,083.80, deficiency in postal revenue $5,786,300.40, excess of cost of service over postal revenue $6,993,702.20. There was a clear gain of nearly $30,000,000 from letter postages, which with the deficiency was absorbed by the losses on other classes of matter carried at less than the cost of distribution and handling.

Free Delivery Offices.—The number of free-delivery offices was 454, additional carriers 9,066, appropriation $8,000,000, expenditure $7,976,202.72, balance $23,797.28.

Railway Mail Service.—During the year mail service was in operation on 154,779·35 m. of railroad; postal clerks were employed in the distribution of mails on 137,564·12 m.; 439 whole cars were in use and 103 in reserve, and 1,760 apartment cars in use and 475 in reserve, total postal cars 2,777; 5,365 clerks distributed mails in transit on the railroad and 39 inland steamboat lines, and handled 7,847,723,600 pieces of ordinary mail, 16,576,293 registered packages, and 1,138,208 through registered pouches and inner registered sacks; appropriation $5,600,000, expenditure $5,590,150, balance $9,850.

Registration.—The total of letters and parcels registered was: domestic letters 10,299,902, foreign 743,599 (total 11,043,501); domestic parcels 1,065,750, foreign 54,918 (1,120,668); free 2,782,912; total 14,947,081; fees $1,216,416.90.

Special Delivery.—Letters and parcels bearing special delivery stamp (10 cts.), in addition to regular postage, are sent out on arrival at free delivery offices by special carriers. During the year 1,229,939 pieces arriving from other places and 383,628 pieces deposited for local delivery—in all 1,613,567 pieces—were delivered to addresses as soon as possible after arrival or deposit.

Postal Money Orders.—There were 9,836 offices authorized to issue and to pay domestic money orders and postal notes; and 677 offices authorized to issue, but not to pay, postal notes; 10,624,727 domestic money orders amounting to $114,362,757.12 were issued, and 10,514,548, value $113,513,300.06 paid; gross fees for orders $950,755.57. The issue of postal notes was 6,927,825, value $12,160,489.60, and payments 6,831,206, value $12,063,005.09;

gross fees for notes $208,123.23. The fees for domestic money orders are: $5 or less, 5 cts.; $5–$10, 8 cts.; $10–$15, 10 cts.; $15–$30, 15 cts.; $30–$40, 20 cts.; $40–$50, 25 cts.; $50–$60, 30 cts.; $60–70, 35 cts.; $70–$80, 40 cts.; and $80–100, 45 cts. The uniform fee for a postal note is 3 cts., and the amount of each is limited to $4.99.

International Money Orders.—The money-order offices authorized to transact international money-order business numbered (1890, June 30) 1,870, and (Dec. 1) 1,996. During the fiscal year they issued 859,054 orders, value $13,230,135.71; paid 268,405 orders, value $4,842,396.29; repaid 2,677 orders, value $39,141.53; and received in fees $163,613.90. The largest amount ($5,211,262) was sent to British addresses, the next ($2,790,739) to German, the third ($1,360,751) to Canadian, the fourth ($1,005,279) to Italian. The fees for all international money orders are: $10 or less, 10 cts.; $10–$20, 20 cts.; $20–$30, 30 cts.; $30–$40, 40 cts.; $40–$50, 50 cts.; $50–$60, 60 cts.; $60–$70, 70 cts.; $70–$80, 80 cts.; $80–$90, 90 cts.; $90–$100, $1.

Postal Material Issued.—The various articles aggregated in number 3,183,741,338, value $59,458,054.79, and comprised 2,219,737,060 ordinary postage-stamps, value $42,734,108; 2,120,890 special delivery stamps, $212,089; 3,762,398 newspaper and periodical stamps, $1,711,464; 13,638,190 postage-due stamps, $324,712; 214,176,200 plain stamped envelopes, $4,170,862; 251,212,000 'request' stamped envelopes, $5,415,263; 48,444,750 newspaper wrappers, $566,571; 1,134,500 letter sheet envelopes, $26,093; and 429,515,350 postal cards, $4,296,891.

Miscellaneous.—Congress alone has the right to establish post-roads and post-routes, and 1891, Mar. 2, the senate adopted the postal subsidy bill passed by the house to promote transportation of mail matter by American ocean steamships. Postmaster-gen. Wanamaker in his report 1890, Nov. 29, reiterated his recommendation for establishment of a postal telegraph service and postal savings banks, for reduction of letter postage to one cent, and for exclusion from the mails of bulky material, greater restrictions on free matter, and a law to compel other executive depts. to pay their share of the mail service, to make that reduction possible. See DEAD-LETTER OFFICE: FRANK, POSTAL: POSTE-RESTANTE.

POST-OFFICE, OFFENSES AGAINST THE: offenses which, because of the conspicuous part which the post-office plays in modern civilization, have been made the subject of national legislation. The code of laws for the U. S. post-office, which is very voluminous and detailed, is contained in a special govt. publication, *Postal Laws and Regulations*, which may be consulted by the public at any large post-office. Beside this, an official *Postal Guide* is revised and published monthly and annually, which gives the latest laws, amendments, and instructions to postal officers. In the United States, as elsewhere, the most stringent laws are those for the preservation of the secrecy of the mails. Their substance is:

'No person employed in any department of the postal service shall under any circumstances break the seal of any letter or parcel for the purpose of ascertaining the character of its contents.' The only exception is in the Dead-letter Office (q.v.), where an officer is specially authorized to open a letter or parcel solely for the purpose of ascertaining the name and address of the writer, that the letter or parcel may be returned. This law is so rigidly enforced that even in the other stringent ones, prohibiting the use of the mails to persons dealing in counterfeit money or engaged in lottery schemes of any character, its provisions are invariably reiterated. A postmaster who *knows* that a letter or parcel contains counterfeit money, lottery tickets, or circulars about either, must seize the letter or parcel and withhold it from transmission or delivery; but he must not open a suspected letter or parcel to ascertain if it contains prohibited or other unmailable matter. No person nor corporation may engage in the regular transmission of letters, locally or for long distances, for rate payments. The writing or printing on the outside of envelopes and parcel wrappers of obscene, scurrilous, libelous, or threatening terms or epithets, is an offense punishable by fine and imprisonment; and the mailing, even under cover, of any obscene book, pamphlet, picture, or circular, is also prohibited. It is also an offense to attempt to evade proper postage on any letter or parcel; to wash a canceled stamp by any process for second use; to attempt to use a second time a stamp once canceled; or to use a penalty envelope, issued by the govt. for a free answer or acknowledgment to a communication on official business, for any private purpose.

POSTPONE, v. *pōst-pōn′* [L. *post*, after; *ponĕrĕ*, to put or place]: to put off to a future or later time; to adjourn; to delay; to set below in value. POSTPON′ING, imp. POSTPONED′, pp. *-pōnd′*. POSTPON′ER, n. *-ėr*, one who postpones. POSTPONE′MENT, n. *-mĕnt*, the act of deferring to a future time; temporary delay.—SYN. of 'postpone': to defer; delay; put off; procrastinate; adjourn; retard; hinder.

POST-POSITIVE, a. *pōst-pŏz′ĭ-tĭv* [L. *post*, after; *posĭtus*, put or placed]: in *gram.*, placed after a word. POST-POSITION, n. *pōst′pō-zĭsh′ŭn*, in *gram.*, a word or particle placed after or at the end of a word, and which shows the relation it bears to another word in the sentence—distinguished from *preposition*, which regards the word or particle when it comes before. POST′POSI′TIONAL, a. *-ăl*, pertaining to a post-position.

POST-PRANDIAL, a. *pōst-prăn′dĭ-ăl* [L. *post*, after; *prandĭŭm*, a meal]: occurring after dinner.

POSTSCENIUM, n. *pōst-sē′nĭ-ŭm* [L. *post*, behind; *scēna*, a scene]: the part of a theatre behind the scenes.

POSTSCRIPT, n. *pōst′skrĭpt* [L. *post*, after; *scriptus*, written]: a paragraph added to a letter below the signature, and usually marked P. S.

POST-TERTIARY SYSTEM, n. *pōst-tėr′shi-a-rĭ sĭs′tĕm* [see each word separately]: in *geol.*, all the accumulations and deposits that have been formed since the close of the Pliocene epoch.

POSTULANT, n. *pōs′tū-lănt* [F. *postulant*, a candidate, a suitor—from L. *pos′tulans* or *postulan′tem*, demanding; *postulātus*, demanded; *postulārĕ*, to demand]: one who or that which demands; a candidate. POS′TULATE, n. *-lāt*, or POS′TULA′TUM, n. *-lā′tŭm*, something to be assumed or taken for granted; in *logic* or *phil.*, a proposition whose truth is assumed as a foundation for further reasoning (see below): in *geom.*, a self-evident problem (see below): plu. POS′TULATES, *-lāts*, or POS′TULA′TA, *-lā′tă*. POS′TULATE, v. to assume; to take without positive consent; to solicit; to entreat. POS′TULATING, imp. POS′TULATED, pp. POSTULA′TION, n. *-lā′shŭn* [F.—L.]: the act of supposing without proof; supplication; suit: in *canon law*, presentation or recommendation addressed to the superior, to whom the right of appointment to any dignity belongs, in favor of one who has not a strict title to the appointment. It is one of the forms of proposing to the pope persons nominated, but not, strictly speaking, elected, to a bishopric. It is used also in the case of elections in which the candidate, though regularly chosen by the electors, yet is under some legal disability which involves the necessity of a dispensation. POS′TULA′TORY, a. *-tėr-ĭ*, assuming without proof.

POSTULATE, *pŏs′tū-lāt*, in Geometry: something *demanded*, and which must be granted before the demonstrations of the science can be wrought out. The postulates of Euclid have reference to certain constructions indispensable to the reasoning. They are these three: 'A straight line may be drawn from one point to another;' 'A line already drawn may be produced;' and 'A circle may be described from a given centre, with a given radius.' The object of laying down these in the shape of demands, is to fulfil one great condition of demonstrative science, which is, that nothing shall be proceeded on, in the course of the reasoning, without being explicitly stated at the outset. It has been noticed by critics that the three postulates of Euclid do not exhaust the demands actually made in the course of his demonstrations. Thus, in the 4th and 5th Propositions, Book I., this postulate is assumed: 'Any figure may be removed from place to place without alteration of form, and a plane figure may be turned round on the plane.' The P. is something different from the axiom. An axiom is a general and fundamental principle, such as no one can deny, and serving as the ultimate foundation (in Logic, the major premise) of deductive inferences; e.g., 'Things equal to the same thing are equal to one another.' The P., in Euclid's sense, is a special accessory to the reasoning, different from the axioms.

But in Philosophy, the P. takes a much wider sweep, and expresses the most fundamental concessions implied in all reasoning, being pre-requisite to the establishment of the axioms themselves. Thus, it is a P. necessary to reasoning and discussion that a reasoner shall be consistent with himself—that he shall not affirm a thing one minute and deny it the next. The so-called Laws of Thought—Identity, Contradiction, and Excluded Middle—are so many forms of the P. of consistency. These laws are tantamount to demanding that the same thing shall not be maintained in one form, and denied in another: if we say that this room is hot, we must not, at the same time, say that it is not hot. So the ordinary law of the syllogism, 'Whatever is true of all the members of a class, is true of each,' is not so much an axiom as a P. of consistency: we must be prepared to repeat individually the statements that we have affirmed collectively. The ultimate premises of all truth and reasoning may be put in the form of postulates, as follows: 1. Present Consciousness must be admitted as a ground of certainty. 'I am thirsty,' 'I hear a sound,' as facts of present consciousness, are to be held as trustworthy in the highest degree, or as amounting to the highest certainty. 2. But present consciousness is not enough; it must further be conceded that Past Consciousness is a ground of certainty. Present consciousness does not amount to an experience of value for future purposes, unless taken with past. Now, though a remembrance that is long past is often uncertain, a recent remembrance must be pronounced absolutely certain, not less than a present consciousness. That 'I was thirsty a short time ago,' I must be certain of, in order to establish the induction, 'that water quenches thirst.' 3. It must further be conceded, that 'What has been in the past, all circumstances holding the same, will be in the future.' That a thing has been, does not imply that it will be. We may admit that the sun has risen to-day, and rose yesterday, and so on, and without inconsistency, refuse to admit that it will rise to-morrow. People are generally disposed to treat this as a certainty; indeed, there is a strong natural tendency of the mind to expect that the future will resemble the past, which, when corrected and regulated by experience, constitutes our belief in causation and the uniformity of nature. Still, a blind instinct is no guarantee for truth; and as the assertion of the future is a distinct position, it should be formally assumed in a separate postulate. However often a thing may have happened, we still make a leap, and, so to speak, incur a risk in venturing to predict its future recurrence. Our confidence no doubt increases with repetition, but nothing can obliterate the line between what *has been* and what *is to be*.

These three Postulates of Experience, coupled with the Postulate of Consistency, seem adequate as a basis of all the recognized axioms and truths of experience. In other words, the concession of them is enough to commit any one to the reception of all inductive and deductive evidence.

POSTURE, n. *pŏs′tūr* or *-chûr* [F. *posture*, posture—from L. *positūra*, position, situation—from *pŏsĭtus*, put or placed: It. *positura*]: place; situation; the disposition of a figure and its several parts with regard to the eye, as a human body or a statue; natural position of the body; attitude; position; frame; state; condition: V. to place and dispose in a particular way for a particular purpose. **Pos′turing**, imp. **Pos′tured**, pp. *-tūrd*. **Posture-master**, one who teaches or practices artificial postures of the body.—Syn. of 'posture, n.': attitude; position; gesture; action; place; situation; station.

POSTURES, *pŏs′tūrz*, in Worship: attitudes observed in worship, private or public, but especially the latter. They are the natural expressions of the feeling which accompanies or characterizes the particular devotion in which they are employed, and are used by suppliants to man as well as to God. Four postures are found to have been used by the ancient Christians in their prayer—the standing, the kneeling, the bowing or inclined, and the prostrate. Of these, the ordinary one was kneeling; but for it was substituted, during the Easter-time and on the Sundays, a standing posture, understood to symbolize the resurrection of the Lord Jesus. To this usage we find allusions as early as the time of Justin the Martyr. In the paintings of the catacombs, and on the ancient enamelled glasses found therein, the standing P. in prayer is accompanied by outstretched and upraised hands. The bowing P. was rather a special act of reverence accompanying a particular address or a particular part of an address, than a sustained posture. It occurred at frequent intervals in the ancient liturgy, and is still used in the Roman mass as well as (even more profusely) in those of all the various rites, Greek, Syrian, Coptic, Armenian, and Russian. The prostrate P. was the attitude of the deepest humiliation, and was used mainly by the Penitents (q.v.), especially in that grade of public penance known as 'prostration.' It is also used still in the solemn ordination of subdeacons, deacons, and priests, in the Rom. Cath. Church. The question as to the use of particular postures was a subject of much controversy between the Puritans and the Church of England; and has recently been revived in the Presb. Church of Scotland.

POSY, n. *pō′zĭ* [a corrupt form of *poesy*, in the sense of 'sentiment']: a motto or device; a bunch of flowers; a bouquet; a bunch of flowers, in the sense of the language or sentiment of flowers.

POT, n. *pŏt* [F. *pot*—from mid. L. *potus*, a pot: Icel. *pottr;* Ger. *topf;* Fin. *pata*, a pot: Gael. *poit*, a pot: Ir. *pota;* akin to L. *pōto*, I drink]: a circular vessel deeper than broad, in use for various domestic and other purposes, generally for cooking meat on a fire; a mug for liquor; a quart, as of beer; a deep earthenware vessel of various shapes and sizes: V. to put into pots; to preserve in pots; to put into casks for draining, as sugar. **Pot′-**

TING, imp.: N. the act or process of putting into pots, said specially of plants; the operation of pouring hot liquid-sugar into earthen molds for refining it; the act of pouring new-made sugar into casks to cure it and drain off the molasses. Pot′ted, pp.: Adj. placed or preserved in a pot. Pot′ter, n. *-tėr*, a maker of earthen vessels. Pot′tery, n. *-tėr-ĭ*, all kinds of clay or earthenware; place where earthenware goods are manufactured; art of manufacturing earthenware (see below). Pot-bellied, a. *-bĕl′lĭd*, having a bulging, or protuberant belly, in allusion to the prominent convexity of the circumference of iron pots. Pot-boiler, any work of an artist intended to meet the popular demand and to bring pecuniary return, rather than to conform strictly to the highest canons of his art: such work may not be without merits, but usually reveals haste and a low standard. Pot-boy, or Potman, the boy or man who carries out beer for sale, or who attends to customers in a public-house. Pot-companion, an associate in hard-drinking. Pot-herb, any vegetable suitable for flavoring soups—not (as might be supposed) one of the important culinary vegetables. Pot-holes, round caldron-shaped cavities or holes occurring in the channels of streams, and along the seashores, formed by the grinding action of loose stones. Pot-hook, a hook for suspending an iron pot over a fire; an elementary turn for learners in writing. Pot-house, a low drinking-house. Pot-luck, a familiar term for taking chance of what may be for dinner, without a formal invitation. Pot-metal, a kind of stained glass; melted glass as it comes from the glass-pot: gray, brittle, granular alloy of lead and copper for making pots. Pot-paper, a quality of paper, named from a *pot*, the old water-mark. Pot-valiant, valiant over the liquor only. Potted meats, meats preserved by being parboiled, or by other processes, and then placed in vessels from which means is taken carefully to exclude the air. Potter's clay, a clay suitable for being manufactured into pots or earthenware. Potter's wheel, a wheel or revolving tool used by the potter in the manufacture of earthenware goods. Potting-house, a house where plants are potted. To go to pot [an expression to be explained from prov. Sw. *putt*, pit, hell], to go to ruin; to be destroyed or wasted. Pot calls the kettle black, a person who accuses another of faults or crimes of which he himself is guilty.

POTABLE, a. *pō′tă-bl* [F. *potable*—from L. *potab′ĭlĭs*, drinkable—from *pōto*, I drink: It. *potabile*]: fit to be drunk; drinkable. Po′tableness, n. *-bl-nĕs*, the quality of being drinkable. Potation, n. *pō-tā′shŭn*, a drinking-bout; a draught. Potatory, a. *pō′tă-tėr-ĭ*, of or relating to drinking.

POTAGE: a spelling of Pottage, which see.

POTAL, n. *pŏt′ăl*, or Potale, n. *pŏt′āl* [from *pot*]: the refuse, grains, etc., from a distillery used for feeding cattle and swine.

POTANCE, n. *pō'tăns* [F. *potence*, a gibbet—from mid. L. *potentĭa*, a support]: the stud in a watch in which the lower pivot of the verge plays.

POTASH, n. *pŏt'ăsh*, Potash'es, n. plu. *-ăsh'ĕz* [Dut. *potasch;* F. *potasse;* Ger. *pottasche*, potashes: Eng. *pot*, and *ashes*]: an alkali obtained from the ashes of certain plants, so called because the ashes being washed in a large pot or vessel, the water is then evaporated to obtain the alkali; *strictly*, the hydrate of potassium, as a commercial product met with in the form of gray ashes in a caustic state; *pearl-ash* is the gray ashes freed from some of their impurities, and presented in the condition of carbonate. *Potash* and *Pearl-ash* of commerce are largely derived from the vast quantities of wood cut down and burned in clearing for culture the forest lands of Canada and the n. United States; also from the branches of the trees felled for timber. The ashes, mixed with a small quantity of quick-lime, are put into large wooden cisterns, and covered with water. The whole is well stirred up, and allowed to settle; the next day, the clear liquor is drawn off, and evaporated to dryness in iron pots (whence its name). When a sufficient quantity is got to fill a cask of 5 cwt., it is fused at a red heat, and poured into the cask. The mass when cold is colored gray externally, but when broken, shows a pinkish tint internally. It is very deliquescent, consequently the casks require to be nearly air-tight. In this state, potash contains about 40 per cent. of foreign materials, among which sulphur and carbonaceous matter predominate. This is the crude American potash of commerce. If it is calcined by a reverberatory furnace, the sulphur is driven off, and the carbonaceous matter burned out; the carbonic acid, however, combines with the potash, and forms it into a carbonate. To form it into *pearl-ash*, it is then broken up, and dissolved in water in a wooden cistern, having a perforated bottom covered with straw, through which it filters, and is afterward evaporated in flat-bottomed iron pans. As it approaches dryness, it is stirred with iron rods, which break it up into round lumpy masses of pearly-white color, and in this state it is the pearl-ash of commerce, and contains about 50 per cent. of pure potassa. All land-plants yield potash when burned, and many in much greater proportions than the timber-trees of N. America; but the circumstances in which the materials are there obtained, especially in Canada, give that region the advantage in competition with the world. See Potassium.

POTASH-WATER: see Aerated Water.

POTASSA, n. *pō-tăs′ă*, or Potass, n. *pŏt-ăs′* or *pŏt′ăsh* [*potassa*, a Latinized form of *potash:* F. *potasse*, potashes]: the Latinized name of *potash*, as adopted by chemists, much used in medicine. Liquor potassæ, *lĭk′ŏr pō-tăs′sē:* see Potassium. Potassic, a. *pō-tăs′ĭk*, containing potash as part of the compound. Potassic carbonate, a compound of carbonic acid and potash.

POTASSIUM, n. *pō-tăs′sĭ-ŭm* [see Potash], (symbol K, at. wt. 39, sp. gr. 0·865): elementary body, one of the alkaline metals, the metallic basis of potash. The letter K is selected as its symbol, as the first letter of *Kali*, Arabic for potash, the letter P being preoccupied as the symbol for phosphorus. The following are the chief characters of this metal. It is of bluish-white color, and strong metallic lustre. At 32° F., it is brittle, and has a crystalline fracture; at a somewhat higher temperature, it is malleable; at 60° F., it is soft, and of the consistence of wax; at 130° F., it is completely liquid; and at a red heat, it becomes converted into a beautiful green vapor. Its affinity for oxygen is so great, that on exposure to the air, it immediately becomes covered with a film of oxide. When heated, it burns with violet flame. Its intense affinity for oxygen is well shown by throwing it into water, on which, from its low specific gravity, it floats. The metal abstracts oxygen from the water, and forms oxide of P. (potash); while the liberated hydrogen carries off a small portion of the volatilized P., and taking fire from the heat evolved by the energetic chemical action, burns with a brilliant violet flame. The experiment is very beautiful, the burning metal moving about rapidly on the water, and finally disappearing with an explosion of steam, when the globule of melted potash becomes sufficiently cool to come in contact with the water. This experiment should be conducted under a sheet of glass, else there is danger to the face of one who observes the action closely. At an elevated temperature, P. removes oxygen from almost all bodies into the constitution of which that element enters; and in the laboratory it is often employed to remove any traces of oxygen from hydrocarbons, by distilling the latter with a small quantity of the metal. It is obvious that P. must always be kept in some fluid, such as purified rock-oil or naphtha, which contains no oxygen. P. does not occur in the native state, and can be obtained only by reduction of its oxide, potash. There are three principal modes of reduction—1. Davy, 1807, decomposed a fragment of hydrate of potash, by the current of a strong voltaic battery, into P. which separated as globules at the negative pole, and oxygen which was evolved at the positive pole. This mode yields P. in only very small quantities, and is expensive, but the experiment was most important for the progress of chemistry, as showing for the first time that potash is not, as was previously supposed, a simple body.—2. Stimulated by Davy's discovery, Gay-Lussac and Thenard 1808 succeeded in obtaining the metal by purely chemical means in greater abundance, by decomposing potash by means of metallic iron at white heat. The oxygen of the potash combines with the iron, and the P. in a gaseous form is condensed in a receiver filled with naphtha, and kept cool.—3. The method now usual consists in the distillation of a mixture of P. carbonate and charcoal at a white heat, in an iron retort. If proper proportions are taken, the mixture is wholly converted into carbonic oxide and P.:

$$\overbrace{K_2CO_3}^{\substack{\text{P.} \\ \text{Carbonate}}} + 2C = 2K + \overbrace{3CO}^{\substack{\text{Carbonic} \\ \text{Oxide.}}}$$

P. forms 3 oxides, viz., a monoxide, K_2O (anhydrous potash), a dioxide, K_2O_2, and a tetroxide, K_2O_4; also a hydroxide, KHO, commonly called *caustic potash:* this is always prepared by decomposing the carbonate with slaked lime. The process is as follows: 10 parts potassium carbonate are dissolved in 100 parts water, and heated to ebullition in a clean untinned iron vessel; 8 parts quicklime are meanwhile slaked and added little by little to the boiling solution, which is kept stirred. When all the lime has been introduced, the mixture is boiled for a few minutes and then removed from the fire and the vessel covered. Soon the solution becomes limpid, the calcium carbonate settling at the bottom. The clear liquid, P. hydroxide, is then decanted, and may be concentrated by quick evaporation. When all the water has been evaporated the solid hydroxide, hydrate of potash, or caustic potash remains. It is a white substance, very deliquescent, and soluble in water; alcohol, too, dissolves it freely; and the solid hydroxide of commerce, which is very impure, can be purified by being dissolved in alcohol, decanted, and evaporated again. It acts as a powerful caustic, and quickly destroys both animal and vegetable tissues; hence its solutions can be filtered only through pounded glass or sand. Its affinities are so powerful that few vessels are capable of resisting its influence. Its solution must be preserved in glass bottles into the composition of which no oxide of lead enters, as it has the property of dissolving this oxide out of the glass. Vessels containing silica (porcelain, earthenware, etc.) are decomposed, and platinum itself is oxidized when heated in contact with it. The principal uses of this substance are thus briefly summed up by Prof. Miller. 'Potash decomposes the fixed oils, and converts them into soluble soaps; when fused with silicious minerals, it displaces the bases, and combines with the silica, forming silicate of potash. Potash is extensively employed in the arts: to the soap-boiler and the glass-maker, it is indispensable; when combined with nitric acid, it enters largely into the manufacture of gunpowder; and, in greater or less quantity, it furnishes important aids to a variety of processes employed in the manufactures of the country. In the laboratory, potash is in constant use for absorbing acid gases, such as carbonic acid, and for separating the metallic oxides from solutions of their salts, since, owing to the powerful affinity of the alkali for acids, it readily decomposes the salts of all the metals which produce oxides insoluble in water.'—*Elements of Chemistry*, 2d ed., II. 353.—The *Liquor potassæ* of the pharmacopœia contains about 5 per cent. of P. hydroxide.

The *salts* which potash forms with acids are for the most part readily soluble in water, and colorless, unless (e.g., in permanganate of potash) the acid is colored. Most of them are crystallizable, and they all communicate a violet tint, characteristic of potash, to the flame of spirit of wine and to that of the blowpipe. Many of them occur in the animal and vegetable kingdoms, and the ashes of plants contain them in large quantity. We now notice the most important of these salts. *Normal P. Carbonote*, or *Carbonate of Potash*, K_2CO_3, is obtained by burning plants in dry pits, dissolving the ashes in water, evaporating till the sulphates, chlorides, etc., separate in crystals, and then boiling the mother liquid to dryness in iron pots: see POTASH. The quantity of pure carbonate of potash contained in it is liable to great variation, and the process termed *Alkalimetry* has been invented, with the view of rapidly determining the amount of this salt, on which the commercial value of the pearl-ash depends. Different plants furnish varying quantities of this salt, and the leaves and young shoots furnish it most abundantly. The potash is obtained by the plants from the soil, which, when capable of supporting vegetable life, always contains that substance; and does not exist in the plants in the form of carbonate, but in union with various organic acids (such as acetic, malic, tartaric, and other acids), which, by incineration, become decomposed into carbonates. The purified P. carbonate, employed in pharmacy and for chemical purposes, is prepared from the crude salt by adding an equal weight of cold water, agitating, and filtering. By this means, there is riddance of all less soluble foreign bodies. The solution is then boiled down to a small bulk, and allowed to cool, when the carbonate separates in small crystals, containing 2 molecules of water, and represented by the formula $K_2CO_3.2H_2O$. Carbonate P. is extremely deliquescent, and is soluble in less than its own weight of water, but is insoluble in alcohol. It has an acrid, alkaline taste, and its reaction on test-paper is strongly alkaline. It is a compound of great importance, both as a chemical reagent, and as entering largely into the preparation of most of the other compounds of P., and into the manufacture of soap and glass. *Acid P. Carbonate*, commonly called *Bicarbonate of Potash*, $KHCO_3$, is obtained in white rhombic prisms, by passing a current of carbonic acid gas through a strong solution of normal P. carbonate. These crystals are permanent in the air, but are decomposed by heat; water and carbonic acid being evolved, and the normal carbonate left. This salt is much less soluble than the normal carbonate, requiring four parts of cold water for its solution, which is nearly neutral to test-paper, and has much milder taste than the preceding salt. It is employed largely in medicine for making effervescing draughts. *Normal P. Sulphate*, commonly called *Sulphate of Potash*, is obtained by dissolving in water the acid residue left in the retort in the preparation of nitric acid. This solution, on being neutralized with P. carbonate, furnishes hard transparent crystals of the normal sulphate. From its extreme hardness, this salt is used in medicine (as, for example, in Dover's Powder), for the purpose of finely comminuting vegetable matters. *Acid P. Sulphate*, or *Bisulphate of Potash*, from which the preceding salt is obtained, is the *sal enixum* of the older chemists. Except that it is occasionally employed as a flux it is of no special importance. For *P. Nitrate*, or *Nitrate of Potash*, see NITRE. ***P.*** *Chlorate*, or *Chlorate of Potash*, $KClO_3$, occurs in white rhomboidal tablets of pearly lustre. It has a cooling taste like that of nitre. It fuses at a gentle heat without decomposition, but on increasing the heat, it gradually gives off all its oxygen, and is converted into P. chloride according to the equation:

$$\underset{\text{P. Chlorate.}}{KClO_3} = \underset{\text{P. Chloride.}}{KCl} + \underset{\text{Oxygen.}}{3O.}$$

It is not very soluble, as it requires for its solution 16 parts of cold and 1·7 parts of boiling water. It even exceeds P. nitrate as an oxidizing agent; and if combustible substances, such as carbon, sulphur, or phosphorus be heated, or forcibly rubbed with it, a detonation or explosion occurs. This salt is employed in manufacture of lucifer-matches, in certain operations in calico-printing, and for filling the friction-tubes employed for firing cannon: the best mixture for these tubes consisting of 2 parts of this salt, 2 of sulphide of antimony, and 1 of powdered glass. A mixture known as *White Gunpowder*, consisting of P. chlorate, dried P. ferrocyanide, and sugar, has been employed for blasting purposes, but its preparation is accompanied by so much danger that it is seldom used. This salt does not occur as a natural product, but may be obtained by passing a current of chlorine gas through a hot solution of caustic potash; 6 eq. of chloride combining with 6 eq. of potash to form 5 eq. of P. chloride, and 1 eq. of P. chlorate. The two salts are easily separated by crystallization, as the chlorate is comparatively insoluble, and the chloride extremely soluble. *P. Hypochlorite* (KClO) can be obtained only in solution. Under the title *Eau de Javelle*, it is sold as a bleaching agent. It is obtained by passing chlorine gas through a cold dilute solution of P. carbonate, when P. chlorine and hypochlorite are formed, from which the chloride may be removed by crystallization. For the *P. Phosphates*, formed by varieties of phosphoric acid, see PHOSPHATES, in Physiology: PHOSPHORUS. The *P. Silicates* are important compounds in connection with the manufacture of glass; they enter also into the composition of Fuch's *Water-glass*, or *Soluble Glass*, and have been employed by Ransome and others as a coating by which the decay of magnesian and other limestones may be prevented. For *P. Chromate* and *Bichromate*, see CHROMIUM. The haloid salts of P. may be passed over very briefly. *P. Chloride*, KCl, is obtained in large quantity in preparation of P. chlorate, or may be procured by burning P. in chlorine gas, when the result of the brilliant combustion which takes place is this salt. In its general characters, it closely resembles common salt (NaCl), except that the former communicates a violet, and the latter a yellow tint to the flame of alcohol. It is a constituent of sea-water, of salt marshes, and of many animal and vegetable fluids and tissues. For *P. Bromide* and *Iodide*, see BROMINE: IODINE. *P. Fluoride*, KFl, possesses the property of corroding glass. There are no less than five *P. sulphides*, commencing with the monosulphide, K_2S, and terminating with the pentasulphide, K_2S_5. The latter is the main ingredient in the *Hepar sulphuris*, or *Liver of sulphur*, used in medicine. It is a brown liver-like mass, soluble in water. It is used to prepare *Unguentum Potassæ sulphuratæ*, ointment of sulphurated potash. For *Yellow* and *Red Prussiate* (or the *Ferrocyanide* and *Ferridcyanide*) *of P.*, see FERROCYANOGEN: FERRIDCYANOGEN. *P. Cyanide*, KCN, may be procured by heating P. in cyanogen gas, when brilliant combustion occurs, and the resulting product is this salt. It may be more cheaply and easily prepared by Liebig's process, which does not, however, yield it pure, but mixed with P. cyanate—an impurity which is of no consequence for most of the applications of P. cyanide, e.g., electroplating and gilding. Eight parts of anhydrous P. ferrocyanide are mixed with three parts of dry carbonate of P.; the mixture is thrown into a red-hot earthen crucible, and kept in fusion till carbonic acid gas ceases to be developed, and the fluid portion of the mass becomes colorless. After a few moments' rest, the clear fused salt is decanted from the heavy black sediment, which consists chiefly of metallic iron in a state of minute division. It has recently been derived from an unexpected source. In some of the iron furnaces where raw coal is used for fuel in the hot-blast, a saline-looking substance is sometimes observed to issue in a fused state from the tuyere-holes of the furnace, and to concrete on the outside. Dr. Clark of Aberdeen has shown that this substance is mainly P. cyanide. This salt forms colorless deliquescent crystals very soluble in water. It exhales an odor of hydrocyanic acid, and is said to be as poisonous. Its great deoxidizing power at high temperature renders it a valuable agent in many of the finer operations of metallurgy.

The following are the ordinary tests for the P. compounds: 1. Solution of tartaric acid added in excess to a moderately strong solution of a P. salt, gives after some time a white crystalline precipitate of cream of tartar: see TARTARIC ACID. The result is hastened by stirring or shaking. 2. Solution of bichloride of platinum gives a crystalline yellow precipitate, which is a double salt of platinum bichloride and P. chloride. If not previously acid, the mixture to be tested should be acidulated with hydrochloric acid: see PLATINUM. 3. The violet tint occurring in the presence of P. in the outer flame of the blowpipe, or in the flame of spirit, has been noticed above. 4. The spectrum of a flame containing P. exhibits a characteristic bright line at the extreme limit of the red, and another at the opposite violet limit of the spectrum: see SPECTRUM ANALYSIS.

The U. S. pharmacopœia contains the following preparations of this metal. *Caustic Potash*, or *Hydrate of Potash*, KHO, which occurs in hard white pencils. From its being fused before being poured into the molds which give it the form of pencils, it is often termed *Potassa fusa.* From its power of dissolving the animal tissues, it is sometimes used as a caustic, though its great deliquescence renders it somewhat difficult to localize its action to the desired spot. In bites of venomous serpents, mad dogs, etc., it may be applied with advantage, and it is useful in destroying warts and fungoid growths of various kinds. It can be employed with greater safety than the lancet in opening certain abscesses, especially those of the liver. *Solution of Potash*, commonly known as *Liquor potassæ*, is obtained by the process already given for preparation of P. hydrate—namely, by the action of slaked lime on a boiling solution of P. carbonate. Its sp. gr. is about 1·036. 'One fluid ounce requires, for neutralization, 48·25 measures of the volumetric solution of oxalic acid.' Liquor potassæ, in combination with a tonic infusion, is of service in cases of dyspepsia with excessive acidity of the stomach, e.g., as in habitual spirit-drinkers. It is also frequently given to render the urine alkaline, or to diminish its acidity as may be requisite. In chronic skin-diseases, especially of a scaly nature, it often gives relief, if given in full doses and for sufficient time; and in chronic bronchitis it is given with advantage to diminish the viscidity of the bronchial mucus. The usual dose is ten drops, gradually increased to as much as a fluid drachm. Infusion of orange peel and table-beer are fluids which conceal its unpleasant taste; and veal-broth has been recommended as its vehicle. Its too prolonged use renders the urine alkaline and sedimentary (from deposit of phosphate of lime), and tends to impoverish the blood. *Sulphurated Potash*, or *Potassa sulphurata*—new name for P. sulphuret, or liver of sulphur (*Hepar sulphuris*)—is obtained by fusing together P. carbonate (2 parts) and sublimed sulphur (1 part). It occurs in solid greenish masses, which are liver-brown when recently broken. It is alkaline and acrid to the taste, readily forming with water a yellow solution, which has the odor of sulphuretted hydrogen, and evolving that gas freely, on addition of an excess of hydrochloric acid. It is sometimes given internally in doses of three grains (in the form of a pill made with soap) in obstinate skin diseases, but is used chiefly as a lotion, bath, or ointment for these diseases; but it must be recollected that this compound is an energetic narcotico-acrid poison, its action being like that of sulphuretted hydrogen. *Acetate of P.*, $KC_2H_3O_2$, is obtained by action of acetic acid on P. carbonate, and occurs in white foliaceous satiny masses. In its passage through the system, it is converted into carbonate, and thus renders the urine alkaline. In small doses, from a scruple to a drachm, it acts as a diuretic, and is of service in some forms of dropsy. Combined with other potash-salts, it is much given in acute rheumatism. *Carbonate of P.*, $(K_2CO_3)_2.3H_2O$, is employed in medicine in the same cases as those in which solution of potash is used. In large doses, it acts, like caustic potash, as an irritant poison. It is frequently employed in preparation of effervescing draughts, 20 grains of this salt being neutralized by 17 grains of citric acid, or 18 grains of tartaric acid, or by half a fluid ounce of lemon-juice. *Bicarbonate of P.*, $KHCO_3$, may be used in the same cases as the carbonate or solution of potash. It is used chiefly for manufacture of effervescing draughts, 20 grains of the crystallized salt being neutralized by 14 of citric acid, 15 of tartaric acid, and 3½ drachms of lemon-juice. *Chlorate of P.*, $KClO_3$, is prescribed with advantage in diseases of a low type, such as scarlatina maligna, cancrum oris, diphtheria, scurvy, etc. As it is eliminated unchanged by the kidneys, its *modus operandi* is unknown. It may be prescribed in doses of 10 to 20 grains three times a day in solution; but caution is necessary in its use. *Citrate of P.*, $K_3C_6H_5O_7.H_2O$, is obtained by neutralizing a solution of citric acid with P. carbonate, filtering, and evaporating to dryness, when the salt is deposited as a white powder of a saline, feebly acid taste, deliquescent, and very soluble in water. It is procured *extempore* in a state of solution in the effervescing draughts above noticed. It acts mildly on the skin, bowels, and kidneys, whose secretions it promotes, and is an excellent cooling diaphoretic in fevers with a hot and dry skin, being less liable to act on the bowels than the tartrate or acetate of potash. In irritability of the stomach, it is an excellent remedy, when given as an effervescing draught. It may be taken in doses of a scruple or half a drachm in solution every few hours. For therapeutic uses of *nitrate of P.*, see NITRE. *P. Sulphate*, K_2SO_4, is useful as a mild laxative, a scruple of this salt, especially if combined with ten grains of rhubarb, usually acting mildly and efficiently. It has considerable power in repressing the secretion of milk, and has been much used for this purpose. For uses of the *potassic tartrates*, see TARTARIC ACID. *P. Bromide*, KB*r*, occurs in white, transparent, cubical crystals, and is occasionally employed in enlargement of the spleen and in forms of epilepsy. For uses of *P. iodide*, see IODINE.

POTATION, POTATORY: see under POTABLE.

POTATO, n. *pō-tā'tō* [Sp. *batata*, sweet potato or yam; *betate*, original name for the beet: Haiti, *batata*], (*Solanum tuberosum*; see SOLANUM): plant and its tubers; one of the most important of cultivated plants, and in universal cultivation in temperate parts of the globe. It is a perennial, having herbaceous stems, 1–3 ft. high, without thorns or prickles; pinnate leaves with two or more pair of leaflets and an odd one, the leaflets entire at the margin; flowers an inch or an inch and a half in breadth, the wheel-shaped corolla white or purple, and more or less veined; followed by globular fruit of a straw color when ripe, about three-fourths of an inch in diameter, and containing many seeds; the roots producing tubers. The herbage has a slightly narcotic smell, and the tender tops are used in some countries like spinach. The tubers are, however, the only valuable part of the plant.

The P. is a native of elevated districts of tropical and subtropical America. It has been found growing wild in the Andes of S. America, Mexico, and the Rocky Mountain region of N. America. Humboldt doubted if it had ever been found truly wild; but subsequent travellers, of high scientific reputation, express themselves thoroughly convinced on this point. Except that the tubers are much smaller, and of inferior quality, the wild plant differs little from the cultivated. Maize and the P. are the two greatest gifts which America has given to the rest of the world. The P. was cultivated in America, and its tubers used for food, long anterior to the discovery of America by Europeans. It seems to have been taken to Europe first by the Spaniards, from the neighborhood of Quito, in the beginning of the 16th c., and spread from Spain into the Netherlands, Burgundy, and Italy, but only to be cultivated in a few gardens as a curiosity, and not for general use as food. It long received throughout almost all European countries the same name with the Batatas (q.v.), or Sweet Potato, which is the plant or tuber meant by English writers down to the middle of the 17th c., in their use of the name potato. It appears to have been taken to Ireland from Va. by Hawkins, a slave-trader, 1565; and to England by Sir Francis Drake, 1585, without attracting much notice, till it was a third time imported from America by Sir Walter Raleigh. A long time elapsed before it began to be extensively cultivated. Gerard, in his *Herball*, 1597, gives a figure of it under the name *Batata Virginiana;* but so little were its merits appreciated, that it is not even mentioned in the *Complete Gardener* of London and Wise, published more than a century later (1719); while another writer of the same time says it is inferior to skirret and radish. The idea at last arose that it might be used with advantage for feeding 'swine or other cattle,' and by and by that it might be used for poor people, and for prevention of famine on failure of the grain-crops. The Royal Soc.

took up this idea, and 1663, adopted measures to extend its cultivation. The example had been set in Ireland, where the P. had already come into cultivation to an extent far greater than in any other European country, and with evident advantage. From Ireland, the cultivation was introduced into Lancashire about the end of the 17th c., soon became general there, and thence spread over England; so that, before the middle of the 18th c., it had become important as a field-crop, which it became in s. Scotland 20 or 30 years later; about the same time, in Saxony and some other parts of Germany; but not until the latter part of the century, in some other parts of Germany and in France. In France, the extension of P. culture was very much due to the exertions of Parmentier. In parts of Germany, the governments promoted it by compulsory regulations.

The P., besides affording food for cattle, is next to the principal cereals the most valuable of plants for human food. It is used also for various purposes in the arts. No food-plant is more widely diffused; it is cultivated in temperate and in subtropical countries; and struggles for existence in gardens even within the arctic circle, yielding small and watery tubers. No more important event of its kind has ever taken place than the general introduction of P. culture into the husbandry of agricultural countries. It has undoubtedly prevented the formerly frequent returns of famine. That in 1846 and 7 terrible famine resulted in Ireland and elsewhere from failure of the P. crop itself, was due to the excess to which its cultivation had been carried, and to its having been too widely made almost the sole dependence for food. The results confirmed two great laws, that, unless special fertilizers are used, plants long almost exclusively cultivated in any district, however they may thrive for a time, are sure to fail at last; and that the almost exclusive dependence of a people on one source of support, is unfavorable to their welfare in all their interests.

Humbolt calculates that the same extent of ground which would produce 30 lbs. of wheat, would produce 1,000 lbs. of potatoes. But potatoes are not nearly so nutritious as wheat, and an exclusive diet of them is not favorable to development of the physical powers and of mental energy. It is calculated that 100 lbs. of good wheat-flour, or 107 lbs. of the grain, contain as much actual nutriment as 613 lbs. of potatoes. The inferiority of the P. in nutritious power is due largely to its comparatively small quantity of phosphates and albuminoids. Hence it is most advantageously used with some very nitrogenous article of food, e.g., animal food, or curds, or cheese. The P. tuber, in a fresh state, contains 71–80 per cent. of water; 13–25 of starch, 3–7 of fibre or woody matter, 3–4 of gum, dextrine, and sugar, and 2 of albumen, gluten, and casein. There are considerable differences, however, in different varieties, in different stages of maturity, and in different soils and seasons.

Potatoes are used both raw and boiled for feeding of cattle. For human food, they are variously prepared by roasting or boiling; but now chiefly by boiling, a process by which they are freed from all that is narcotic and noxious in their juice. The water in which potatoes have been boiled is not wholesome, and those modes of preparing them for the table which do not admit of its complete rejection, ought to be avoided.

The herbage or haulm of the P. has been used for making paper, but the results were not encouraging. The berries are sweetish, but not pleasant; nauseous when fermented, but yield by distillation an inferior spirit. Potatoes differ greatly in their herbage—which is sometimes erect, sometimes straggling, in some varieties large and in others small—and in size and color of their flowers; but are more generally distinguished by the size, form, and color of their tubers, which are round, long, or kidney-shaped, white, red, dark purple, variegated, etc. New varieties of the P. are obtained from seed. Owing, probably, to the weakening of the plant by forcing in order to secure large crops, the finer varieties produce but little seed, and the quantity seems to diminish with continued cultivation. The seed-producing power can be stimulated by removing the tubers as they form, but care must be taken not to injure the roots of the plants. The tubers obtained the first year from seed will be very small, but will produce larger ones the next year, and by the third season the quality of the new variety can be in general determined. If the seed of wild plants is used, about eight years will be required to establish the character of the product. The great proportion of new sorts have no special merit. Some fine varieties have been originated by hybridizing —impregnating the pistils of a plant of one sort with the pollen of another—but the failures to secure an improvement are numerous. There is constant change in the varieties cultivated, the favorites of one period being superseded by other sorts. This is due largely to the fact that when carelessly grown, or unduly forced, varieties gradually lose their vigor and productiveness, though many kinds are crowded out by new claimants for popular favor. The number of varieties cannot be even approximately stated. At the Centennial Exhibition, Philadelphia, 1876 a collection of 500 distinct kinds was shown; and a list of the sorts offered for sale in N. America 1889 includes 889 varieties. The unnamed seedlings, and sorts with only a local reputation, would carry the number up among the tens of thousands.

Propagation is nearly always effected by means of tubers, either whole or cut in pieces each of which contains one or more 'eyes' or buds, but may be done by means of sprouts forced early in the season, or with cuttings from stalks. In the s. two crops can be grown in one season, but at the n. this course is impracticable except with the greatest care and the use of the earliest ripening varieties. The yield varies greatly with the soil, climate, cultivation, and variety. In some states in which the land has been long under cultivation the average is as low as 60 bushels per acre, while in others it exceeds 100 bushels. On new land the yield is usually greater than in soils which have borne many crops. What is believed to be the largest single crop produced on an acre was 847 bushels and 33 lbs., grown in Col. 1890; but in N. Y. two crops were grown in one season (1889) which yielded 1,031 bushels and 19½ lbs. On very small areas a still greater rate of production has been secured.

The P. can be grown almost anywhere in the temperate or subtropical regions, but reaches its highest perfection in cool climates and fertile but slightly sandy soils. On rich, heavy lands quantity may be obtained at the expense of quality, but the quality can be improved by use of phosphatic fertilizers. Wet land should be drained before planting. If well fertilized, successive crops can be grown; but a system of rotation tends to prevent multiplication of insect pests and increase of the germs of disease in the soil. The land is to be prepared by deep plowing and thorough pulverization of the surface. If barnyard manure is used, it should be decomposed and thoroughly incorporated with the soil. Previous enrichment of the land is better than heavy applications of manure at the time of planting. Chemical manures, either the 'complete' or the special potato fertilizers, are to be preferred. Rows should be marked with a plow, from two ft. nine in. to three ft. six in. apart, according to size of the variety and condition of the land. The seed is to be dropped in the furrows, 12 to 30 in. apart. Tubers of all sizes are used for seed and are planted whole, or cut, often to single eyes; medium sized tubers cut lengthwise into two to four pieces, using one piece in a hill, are preferable. Covering can be done with a hoe or by horse power; and, except in wet soils, it is well to pass over the planted field with a roller. In a comparatively new method known as 'the trench system' the seed is dropped in furrows eight or ten inches deep, and lightly covered with a harrow. As the plants make their growth, the trenches are gradually filled. It is claimed that by this means the growth of a large number of roots is promoted, weeds are easily kept down, liability to rot is decreased, and large yields are secured, but the cost of harvesting the crop is somewhat increased. Until the blossoms appear, frequent cultivation should be given. Harvesting of early potatoes is to be done when they are well ripened, but if the ground is dry the late sorts, which are to be kept over winter, should remain in the ground till the weather is cool. If properly stored in pits, or in dark, cool cellars, most varieties will keep till the following spring, and some sorts remain good till midsummer. When sprouts appear in spring they should be promptly removed, as their growth will seriously injure the tubers for the table or for planting. It is claimed that a French chemist has recently discovered that the immersion of tubers in a mixture of 100 parts of water and two parts of sulphuric acid will prevent sprouting. This process is said to destroy the eyes without injuring the skin. Where large areas are given to the P., machines for planting and digging are required, and special arrangements should be made for storing the crop.

To maintain the constitutional vigor of the plant, it is well to make occasional change of seed, to avoid cutting the seed into very small pieces, and to abstain from the use of nitrogenous manures. A fair crop of potatoes takes from the land about twice as much phosphoric acid as a crop of wheat, and five times as much potash, but requires less than half as much nitrogen. Fertilizers containing large proportions of potash and phosphoric acid tend not only greatly to increase the yield, but also to prevent disease, and, by promoting the formation of starch, to improve the quality of the tubers. Nitrogenous manures produce a heavy growth of tops with comparatively few tubers, and render the plants susceptible to disease.

The cultivation of the P. in the United States did not become general till after 1800. In 1840 the production exceeded 100,000,000 bushels. The Potato Rot (q.v.) 1842 caused decline in quantity, and led to discarding of many of the old varieties. In hope of obtaining more vigorous plants, the Rev. Chauncey E. Goodrich, of Utica, N. Y., imported tubers from the wild plants of S. America, and in 16 years of patient labor originated about 15,000 new varieties, of which perhaps half a dozen, including the Early Goodrich and the Garnet Chili, were of great value. His labors, continued till his death, brought him no financial reward, but were of inestimable benefit to the people of this country. From some of his varieties many very valuable and popular sorts have been produced. Among the most popular kinds yet originated, and one which has had a permanent reputation, is the Early Rose, one of Bresee's seedlings obtained from the Garnet Chili. After a careful test it was offered to the public 1868. It immediately became a favorite and is still (1891) so popular that great quantities of other kinds, resembling it in appearance, are said to be sold under its name in many of our large cities.

The P. is subject to various diseases and insect enemies. Of the former the P. rot, in its first stages often called P. blight, is by far the most formidable (see POTATO ROT). The curl, which sometimes precedes the rot, is due probably to impaired vitality of the plant. There are about a dozen other kinds of insects which in various localities damage the P., but the P.-beetle (q.v.) is pre-eminently the insect foe of this crop. The scab is, doubtless, due to the work of grubs or worms. These pests breed rapidly in farmyard manure, but seldom appear where only commercial fertilizers are used. A small quantity of sulphur in the hill at the time of planting is said to act as a preventive.

The following states, in the order named, were 1888 the largest producers of the potato: N. Y.; Io.; Penn.; O.; Ill.; Wis. The total crop of the country was 202,365,000 bushels, and the average yield was 79·9 bushels per acre.

Besides its value as a culinary vegetable, the P. is important in other respects. Its starch is very easily separated, and is in large proportions. It is used largely in textile manufactories under the name *farina*, which is converted into dextrine or British gum: see STARCH. In Holland and in Russia, where there is much difficulty in keeping potatoes through the winter, large quantities of starch are made and converted into sugar or syrup: see SUGAR. The refuse of the starch-manufactories is economized; it is pressed out from the water, and used either for pig-feeding or for fertilizing. In n. Europe, much spirit for drinking is made from potatoes; it is called Potato Brandy.

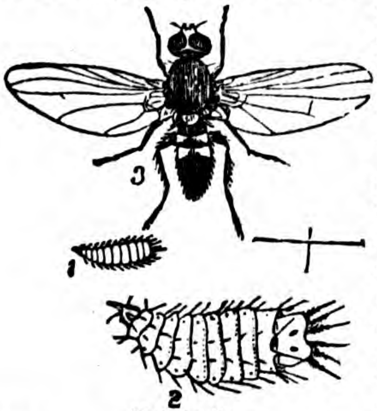
POTATO, SWEET: see BATATAS.

POTA'TO-BEE'TLE (*Doryphora decem-lineata*): largely known as the Colorado Potato Beetle (q.v.), and the Potato-bug: by far the most destructive insect pest attacking the potato. It is of oval form, about one-third of an inch long, orange color, with black spots, and yellow wing-covers which have ten black stripes. It was named 1824 by Thomas Say, who was a member of Long's exploring expedition and who found it in the upper Missouri region. It subsisted on the *Solanum rostratum*, a wild potato of that region. As the western country was settled the beetle began to feed upon the cultivated potato, and to multiply with great rapidity. Though never leaving a position once taken, it constantly spread eastward. It was about 100 m. w. of Omaha 1859, six years later it had crossed the Mississippi, and 1874 it reached the Atlantic states. On its course it had entered Ontario in large numbers. By 1876 the n. and middle states were completely overrun with the pest. Its travels are made in the beetle state, partly by flight, but largely by alighting on wagons, boats, or railroad trains, and thus securing transportation by the aid of man. It is slightly affected by cold, and seems likely to thrive to the utmost n. limit of the cultivation of the potato; but extreme heat is unfavorable to its development, and its powers for mischief in the warmer portion of the country are greatly restricted. It has crossed the ocean, but the stringent measures promptly taken by foreign governments have prevented its extensive spread.

Both the beetles and the larvæ feed on the potato, but the larvæ are far more destructive than the perfect insects. But the beetles often attack the plant when it first appears above ground, and as they are also the parents of the multitudes which, if they are unchecked, will follow, prompt efforts should be made to destroy them. The beetles pass the winter underground, or in protected places such as brush heaps or piles of straw. The female lays her eggs on the under side of the leaves, usually of the potato, but sometimes of other plants, in bunches of 10 to 40 eggs or more, and in all produces 500 to 1,000 during the laying season of about six weeks. In about a week the larvæ appear. Their color is red, but gradually changes to orange. They eat ravenously, and reach their full growth in about three weeks, when they enter the ground and change to the pupa, and then to the perfect insect form in eight or ten days, thus making the full course from the egg to the beetle in but little more than a month. A second generation soon appears, and in favorable circumstances and locations is followed by a third, which, however, is usually smaller and weaker than its predecessors. When abundant and unmolested the larvæ will take every leaf from a field of potatoes in a very few days. When the supply of potatoes fails various other plants are attacked.

There are several natural enemies of the potato beetle, including toads, a few species of birds, and various insects and parasites; but in most localities they seem to accomplish but little; and the potato grower must take vigorous measures or else lose his crop. Pieces of potatoes covered slightly with Paris green are sometimes scattered around the field at planting time, and kill many beetles which feed on them, but on account of the great danger to domestic animals this course is not generally adopted. When the beetles first appear on the vines they are sometimes picked by hand and destroyed by being covered with hot water or kerosene. They are sometimes brushed into pans and killed in the same manner; but a poisonous principle which is set free when they are scalded makes requisite care not to inhale the vapor. Crushing the eggs has been often tried, and there are machines for brushing off and gathering the larvæ and beetles. In midsummer, when the ground is dry and hot and the sun is shining brightly, many of the larvæ will perish if simply brushed from the vines. But by far the cheapest, most common, and most efficient method is the use of Paris green, or some other poisonous substance, applied to the growing plants. Paris green can be used dry, thoroughly mixed with about 30 times its weight of flour, and sifted upon the vines when they are wet with dew, or mixed with water at the rate of about one tablespoonful to two or three gallons of water and sprinkled over the vines. It is usually necessary to make two or more applications during the season. If properly managed no injury can result to the user, the plant, or the land from the application of the poison. After being a short time in the soil, it is changed to an insoluble form, and will neither be taken by the roots of plants nor contaminate the water supply.

POTA′TO-FLY (*Anthonyia tuberosa*): dipterous insect of the same genus with the Beet-fly, Cabbage-fly, Turnip-fly, etc. In its perfect state, it is very like the House-fly. The male is about five lines long, grayish-black, bristly, with five indistinct broad stripes on the back, and four ocherous spots on the second and third segments; the female ashy-slate color, with two indistinct ocherous spots on the second abdominal segment. The maggots are very abundant in bad potatoes in autumn, and are very different from the maggots of the House-fly, being horny, spiny, bristly, and tawny; the long tail ending in six long bristles. The pupa is very like the larva.



Potato-fly:
1, Larva or maggot, natural size; 2, larva magnified; 3, Potato-fly.

POTA′TO ROT, or **Pota′to Disease**: destructive disease of the potato plant. It appeared in the United States and in Germany 1842, and three years later was very destructive to the potato crop in this country and Gt. Britain, causing a severe famine in Ireland. It has since prevailed at times, with differing degrees of intensity, but often causing the loss of a large portion of the crops over considerable areas.

The disease is of a fungoid nature, and attacks the plant when it is in full leaf and making a rapid growth, and usually when the weather is warm and wet. It sometimes works so quickly that the crop is utterly ruined in less than 48 hours from its first appearance, but it usually develops more slowly and causes the loss of only a portion of the tubers. Its appearance is indicated by black spots on the leaves, and is quickly followed by a change in the color of the stalks and by decay of the tubers. The parasite poisons the whole plant and destroys its tissues. The disease is propagated by means of minute spores, which may remain for some time undeveloped, but which become active as soon as the conditions of the plant and atmosphere are favorable. Successive crops of these spores are produced in a single summer, and being carried by the wind to unaffected plants, spread the disease rapidly. It is thought, by some, that spores falling on the ground sometimes are carried by rains to the tubers, and thus cause decay. It is probable that the disease is preserved through the cold weather by means of 'resting spores' in the tubers or in vines of diseased plants. As the disease can be communicated by contact, slightly affected tubers should be stored by themselves in a cool place and dusted with air-slacked lime. As far as the disease progresses it breaks down the starch cells, but the unaffected portions of the tubers can be cooked and fed to pigs or can be used in manufacture of starch. Various methods, such as mowing the tops, dusting with plaster, etc., have been tried, but with little success, for arresting the disease in growing crops. Preventive measures may be more useful. Spraying the vines several times during the growing season with the Bordeaux mixture which has proved valuable in preventing the mildew of grapevines, is a recent and promising method. This mixture is made by dissolving six lbs. sulphate of copper in 16 gallons of water, slaking four lbs. of lime with six gallons of water, and mixing thoroughly when cool. This mixture must be frequently stirred when used. Though its use is still an experiment, it promises to be very useful if applied in time. Spraying with Paris green to destroy the Potato-beetle (q.v.) is by some thought to act slightly as a preventive of the disease. The immersion of the seed in a solution of sulphate of copper has recently been tried with apparent advantage, but is not likely to do away with the need of treating the growing plants: one oz. of the sulphate to a gallon of water is sufficiently strong. The seed is to remain in the solution but a moment, and is to be planted at once. Other preventive measures are the use of perfectly sound seed, early planting, the destruction at harvest of the infected plants, and the use of mineral rather than of nitrogenous fertilizers. Anything which impairs the vitality of the plant tends to invite the disease, and crops on low and wet land will suffer much more than those in dry soils. The disease attacks the tomato.

POTATO-STARCH: the starch or flour obtained from potatoes: see POTATO: STARCH.

POTATO-STONES: quarryman's term for *geodes.*

POTCH, v. *pŏch* [F. *pocher*, to bruise: Ger. *pochen*, to stamp (see POACH)]: in *OE.*, to thrust at; to push; to poke. POTCH'ING, imp. POTCHED, pp. *pŏcht.*

POTCHEFSTROM, *pŏt'chĕf-strŏm:* town in the Transvaal, s. Africa, on the Mooi river, about 25 m. n. of the Vaal river.—Pop. 3,900.

POTCHINKY, *pō-chĭn'kē:* town of Russia, govt. of Nijni-Novgorod, 800 m. s.e. from St. Petersburg. Pop. (1880) 7,224.

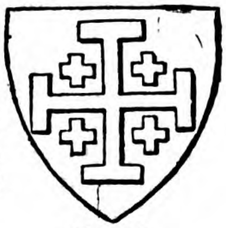
POTEEN, n. *pō-tēn'* [Ir. *poitean*, a little pot]: Irish whisky.

POTEMKIN, *po-tĕm'kĭn*, Rus. *pŏt-yōm'kĭn*, GREGORY ALEXANDROVICH: most famous of Czarina Catharine II.'s favorites: 1739–1791, Oct. 15; b. Domnovo, govt. of Smolensk, Russia; of a noble Polish family. At an early age he entered the Russian army, and rose to be ensign in the imperial horse-guards. Happening to attract the notice of the czarina by his noble appearance and handsome athletic figure, he was forthwith (1762) attached to her household, and appointed col. and gentleman of the bedchamber. After a time (1774), he superseded Gregory Orloff (q.v.) in the good graces of the czarina, and became her favorite and avowed lover. He played the part of lover for only two years, when he was superseded by a younger and more amiable successor; but the ascendency which he had acquired over the czarina was not affected by this change. He knew well how to flatter her vanity, rouse her fears, and make her believe that he alone could protect her from the numerous conspiracies (some of which were real, and many mythical) which were being constantly formed against her. Catharine submitted to all his caprices, consulted him in everything, and was in almost all cases guided by his advice. P. was consequently, from 1770 till the year of his death, the true representative of the Russian policy in Europe; and Frederick the Great of Prussia, and even the haughty Hapsburgs, Maria Theresa and Joseph II., cringed before him, and, at the demand of the czarina, loaded him with titles and honors; though, much to his chagrin, he failed to obtain the English order of the Garter, and the French one of the Holy Spirit. P. interfered little with the internal government of Russia, beyond offering many valuable suggestions for development of manufactures and industry; his important achievements were connected with the foreign policy of Russia, especially as related to Turkey. It was at his instigation that the Turks were forced into war, to the loss of their territories n. and e. of the Black Sea, in order that Russia might possess a southern sea-board; and after this had been done, P. immediately ordered the creation of a Black Sea fleet, and the building of Kherson, Kertch, Nikolaiev, and Sebastopol. For his services, he was created gov. of the Taurida (q.v.), and loaded with honors and presents. In 1787 Catharine visited him at his government, and the 'hoax' which he played on his sovereign is well described by De Segur. He caused an immense number of wooden painted houses to be constructed, and grouped into towns and villages along the route that the czarina was to take, and hired people to act the part of villagers, merchants, tradesmen, and agriculturists, engaged in their various pursuits. The czarina's vanity was hugely gratified at the seeming improvements of the country under her rule, and P. was rewarded for his dexterity by further honors and emoluments. Almost immediately after this, a war broke out with the Turks, and P. was placed at the head of the army, with Suwarof and Repnin for his lieutenants. His career was one of uninterrupted victory. Bessarabia and the two principalities were conquered, and he was about to advance on Constantinople, when the empress commanded a cessation of hostilities; but before P. had time to bring her round to his own views, he was seized with sudden illness on the road between Jassy and Nikolaiev, and died there.—As to P.'s ability as statesman and soldier, authorities differ: it is not easy to distinguish between his work and that of his many able subordinates. As to his arrogance and licentiousness, there is no doubt.

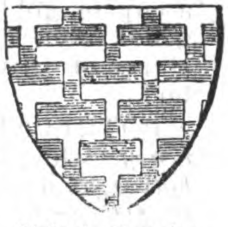
POTENT, a. *pō'tĕnt* [L. *potens* or *poten'tem*, powerful: It. *potente*, potent: F. *potence*, potency]: mighty; powerful; energetic; strong; having power or efficacy, in a moral or physical sense; having great authority or dominion. Po'tently, ad. *-lĭ*, powerfully; forcibly. Po'tentate, n. *-tĕn-tāt* [F. *potentat*]: a monarch or sovereign. Potential, a. *pō-tĕn'shăl*, existing in possibility, not in act; in *gram.*, applied to a mood which expresses possibility, liberty, power, will, or obligation; efficacious; powerful: N. anything possible. Poten'tially, ad. *-lĭ*, in a potential or possible manner; in possibility; not in act. Poten'tial'ity, n. *-shĭ-ăl'ĭ-tĭ*, the state of being potential; possibility. Potence, n. *pō'tĕns*, same sense as *potency;* in *her.*, a cross with crutch-like ends (see Potent, Cross: etc.). Po'tency, n. *-tĕn-sĭ*, physical or moral power; efficacy; influence.—Syn. of 'potent': mighty; powerful; efficacious; puissant; able; efficient; forcible; cogent; influential.

POTENT, n.: OE. for Potentate.

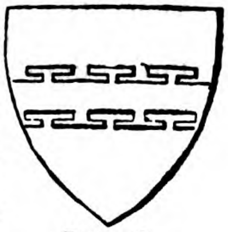
POTENT, *pō'tĕnt*, Cross, in Heraldry: a cross crutch-shaped at each extremity; called also a Jerusalem cross, from its occurrence in the insignia of the Christian kingdom of Jerusalem, which are, Argent a cross potent between four crosslets or. This coat is remarkable as a departure from the usual heraldic rule which prohibits placing of metal upon metal.


Potent.

POTENT COUNTER-POTENT: one of the heraldic furs, in which the field is filled with crutch-shaped figures alternately of metal and color, those of opposite tinctures being placed base against base, and point against point. The metal and color are understood to be argent and azure, unless specially blazoned otherwise. Potent counter-potent is sometimes blazoned Vairy-cuppy.


Potent Counter-Potent.

POTENTÉE, *pō-tĕn-tā':* heraldic line of division which takes the form of the outline of a succession of crutch-shaped figures.


Potentée.

POTENTILLA, *pō-tĕn-tĭl'lâ:* genus of plants of nat. order *Rosaceæ*, sub-order *Potentilleæ*, differing from *Fragaria* (Strawberry) in the fruit having a dry instead of a succulent receptacle. The species are very numerous, natives chiefly of n. temperate regions, and some of them of the coldest north; most of them perennial herbaceous plants, with yellow, white, red, or purple flowers, and pinnate, digitate, or ternate leaves. They are often called Cinquefoil [Fr. five-leaved]; and some of the species are favorite garden flowers. There are a dozen native species east of the Mississippi river, including that which is known as Five-finger (*P. canadensis*) a creeping plant with 5 wedge-shaped leaves, toothed near the apex; Silvery Cinquefoil (*P. argentea*), its 5 leaflets with silvery wool beneath; and Marsh Five-finger, with purple petals. All these except the first are natives of both Europe and N. Amer.; so also *P. Norvegica*, with three leaflets, and the Shrubby Cinquefoil, a shrubby species (*P. fruticosa*), forming a large bush, with pinnate leaves and a profusion of yellow flowers, often planted in shrubberies. *P. anserina*, popularly known as Silverweed, having creeping stems, yellow flowers, and pinnate leaves, which are beautifully silky and silvery beneath, has an edible root, with a taste somewhat like the parsnip. Swine grub it up with avidity; and in the Hebrides, where it abounds, it has been a resource in famine. —The name P. is said to be derived from Latin *potens*, powerful, and to allude to supposed medicinal virtues. Tormentil (q.v.) is sometimes referred to this genus.

POTENZA, *pō-tĕn′zâ* (anc. *Potentia*): town in s. Italy, chief town of the province of P.; on a hill of the Apennines, near the river Vasente or Basento, 54 m. e. of Salerno. It is surrounded by a wall, has a fine cathedral of the Doric order, and is the seat of an abp. P. was shaken by earthquakes 1273, 1694, and 1812.—The province of P., which, as a *compartimento* of the kingdom, is called Basilicata, formerly suffered severely from brigandage.—Pop. of city 18,000.

POTERIOCRINITES, n. *pō-tē′rĭ-ŏk′rĭ-nītz* [Gr. *potērĭŏn*, a cup or goblet; *krinon*, a lily]: in *geol.*, an extensive genus of encrinites, occurring in the carboniferous limestones of Britain and Ireland, having a goblet-shape of body.

POTHECARY, n. *pŏth′ĕ-kăr-ĭ* [a corruption of *apothecary*, which see: Sp. *boticário*, an apothecary—from *botíca*, an apothecary's shop: L. *apŏthēca*, a storehouse]: in *OE.* and *prov.*, one who compounds and sells medicines; a druggist; an apothecary.

POTHEEN: see Poteen.

POTHER, n. *pŏth′ėr* [a probable corruption of *potter*, to stir or disorder anything—which see; also its synonym *bother:* Dut. *peuteren*, to fumble]: bustle; confusion: V. to tease or perplex; to make disorder or confusion. Poth′ering, imp. Poth′ered, pp. *-ėrd.*

POTHIER, *po-tyā′*, ROBERT JOSEPH: 1699, Jan. 9—1772, Mar. 2; b. Orléans, France: jurist. In 1749 he was appointed prof. of law at Orléans, previous to which time he had been successively judge of the court of the *châtelet* and of the *présidial.* Besides his great work *Pandectæ Justinianæ* (1848–52), a standard work many times reprinted, he wrote a number of treatises on contracts, all of which have been translated in this country. His complete works were published (25 vols. Paris 1810), and have since been reprinted a number of times. He died at Orléans.

POTICHOMANIA, n. *pō-tĭ-shō-mā′nĭ-â*, or POTICHOMANIE, n. *pō-tĭ-shō-mā′nĭ* [F. *potiche*, a porcelain vase, and *manie;* Gr. *mania*, madness]: cheap decoration on glassware by coating the inside with varnished paper or linen flowers or devices, and filling the interstices with opaque paint.

POTION, n. *pō′shŭn* [F. *potion*, a potion—from L. *potĭōnem*, a draught or potion—from *potārĕ*, to drink]: a medicine to be taken as a draught; a dose.

POTOCKI, *po-tŏts′kē*, STANISLAW FELIX, Count: soldier: 1752–1809. He was active in fomenting popular discontent with the Polish constitution of 1791, and joined with Rzewuski and Branicki, 1792, in promulgating the manifesto of the confederation of Targovitza, acting in the interest of the Russian empress, Catharine II. The insurrection of 1794, under Kosciusko, caused P. to flee from the country, and he took refuge in St. Petersburg. The highest court of the republic condemned him to death as a traitor, but the victories of Suvorof opened the way for P.'s return to Poland, and he was commissioned by Catharine field-marshal.—His cousin, Count IGNACY P. (1751--1809), soldier and statesman, was a strenuous patriot to the end.—Ignacy's bro., Count STANISLAW KOSTKA P., statesman, after the downfall of Poland retired to his estates near Warsaw and applied himself to study of the arts and sciences.

POTOMAC, *pō-tō′mak*, RIVER: stream formed by two branches, which rise in the Alleghany and Shenandoah Mts., and unite 20 m. s.e. of Cumberland, Md.; from which point the river flows generally s.e., 400 m., and falls into Cheaspeake Bay, 75 m. from the ocean, at which point the P. is 6 to 8 m. wide. Ships of the largest size ascend a few miles above Washington, 120 m. from its mouth, and the tide reaches Georgetown. Between Westport and Washington, 220 m., the P. falls 1,160 ft. The scenery in this upper portion of its course is wild and beautiful, especially where it breaks through the Blue Ridge at Harper's Ferry. Its principal affluents are the Shenandoah, Savage, Monocacy, and Acquia creek. The P. forms the greater part of the boundary between Va. and Md. During the war of secession, both Federal and Confederate armies crossed several times the fords of the Upper Potomac, and severe actions were fought on its banks.

POTOROO, *pŏt-o-rô'* or *pō-tō-rô'*, or KANGAROO' RAT (*Hypsiprimnus*): genus of marsupial quadrupeds, of family *Macropidæ* (see KANGAROO), differing from kangaroos chiefly in having distinct canine teeth in the upper jaw. The first pair of incisors in the upper jaw are also longer and larger than the others. The molars decrease in size backward; and when not worn, present four blunt tubercles. The fore-limbs are proportionally longer, the hinder-limbs less powerful, than in the kangaroos. The general form and habits are similar; there is the same sitting on the hind-feet with help of the tail for support, and a somewhat similar hopping, but not nearly an equal power of vigorous leaping. The stomach is large, and divided into two sacs, with several inflations; the food entirely vegetable. There are several species, none larger than a rabbit, all natives of Australia, timid and harmless. They are generally clothed with a dense and sometimes a beautiful fur; but the tail is nearly destitute of hairs, and scaly.

POTOSI, *pō-tō-sē':* department of Bolivia, S. Amer.; bounded n., n.e., e., and partly w. by the depts. Oruro, Chuquisaca, Tarija, and Atacama, s. by the Argentine Republic, and partly w. by Peru; 54,297 sq. m.; cap. Potosi. It is divided into the provinces Chayanta, Chichas, Potosi, Lipes, and Porco; has a rugged surface which rises toward the Cerro de Potosi, a conical mountain 16,000 ft. above sea-level; is drained by the Pilcomayo river and its tributaries; and has a generally barren soil. Nearly all the dept. is of volcanic formation. Both the Cerro de Potosi and the Cerro de Porco, s.w. of it, contain some of the richest silver mines in the world; and in the latter was the first mine opened by the Spaniards after the conquest of Peru. The dept. abounds also in gold, zinc, lead, tin, copper, other minerals, and precious stones. Pop. (1865) 290,304.

POTOSI': one of the richest mining-towns in S. America, second town in Bolivia, and cap. of the dept. of P.; in a dreary and barren district, 13,330 ft. above sea-level; lat. 19° 35' s., long. 65° 25' w.; 70 m. s.w. of Chuquisaca. It covers a large area, and formerly had a great pop.; but for many years great part of the town has been in ruins. In its centre is a large square, around which are ranged the principal public edifices, government-house, town-house, cathedral, etc. The mint is a large building, in which the average amount now coined amounts to about $2,000,000 annually. In the central square, an obelisk in honor of Bolivar was erected 1825. English and French manufactures are imported; and as the country in the vicinity produces little or nothing, all supplies have to be brought from a distance. The Cerro (sierra) de Potosi, or Silver Mountain, is 15,200 ft. high. Its summit is honeycombed with more than 5,000 mines; and operations are now carried on at a lower level, where the inrush of water, however, often compels the miners to abandon the richest mines. The silver extracted from the mines of this mountain to 1846 was stated to have been of the value of $1,606,445,350. Pop. (1611) reported 170,000; (1882) stated at 22,850, but probably not much more than half that number.

POT-POURRI, *pō-pô-rē′* [F.]: mixture of sweet-scented materials, chiefly flowers, dried, and usually placed in a vase with a perforated lid, that their perfume may be diffused. The principal ingredients are rose-petals, lavender flowers and stalks, violets, jasmine flowers, woodruff leaves, cloves, orris-root, pimento, musk, sandalwood raspings, cedar shavings, etc.—P.-P. signifies also a dish of different sorts of viands, like the *hotch-potch* of Scotland, and the *Olla* (q.v.) *Podrida* of Spain. Thence it comes to be applied to any medley.—In *music* P.-P. is a selection of favorite pieces strung together without much arrangement, forming a sort of medley.

POTSDAM, *pŏts′dăm:* village in Potsdam tp., St. Lawrence co., N. Y.; on the Racket river and the Rome Watertown and Ogdensburg railroad, about 20 m. e.s.e. of Ogdensburg. It is in the midst of the extensive quarries of the well-known Potsdam sandstone, named from the tp. One of the state normal schools is here, having a handsome building of the sandstone, costing $100,000. The town is supplied with the Holly waterworks, has a fire dept., the fair-grounds of two agricultural societies, and a large number of manufactories (including one for silver-reed organs), for which the Racket river furnishes water-power. Pop. (1880) 2,762.

POTS′DAM: city in the Prussian province of Brandenburg, and, next to Berlin, the handsomest and best-built town in Prussia; on an island at the point of junction between the small stream of the Nuthe and the river Havel, 16 m. s.w. of Berlin. P. is the usual summer residence of the royal family of Prussia, and seat of the imperial court. The city is divided into old town and new town, and has four suburbs. The streets are broad and regularly built, and there are fine squares, some of which are planted with trees, forming pleasant public walks. Of the many large and handsome buildings, one of the most worthy of notice is the old royal palace, an oblong parallelogram, three stories high, with a magnificent colonnade facing the fine Havel Bridge. P. has several state benevolent and educational institutions—e.g., two asylums for orphan children of military men, and one for orphans of persons belonging to the civil service; schools for cadets, subalterns, and privates; the Luisendenkmal, institution providing for indigent girls of irreproachable character; a gymnasium, a high school, and various other training and special schools. Among the churches, the most noteworthy are the Garnisonskirche, with a tower 400 ft. high, a fine chime of bells, and a noble marble pulpit, below which rest the remains of Friedrich-Wilhelm I. and Friedrich II.; and St. Nicolai's, lately rebuilt after the model of the Panthéon at Paris. The Brandenburger-Thor, the handsomest of the various gates, is a triumphal arch copied from Trajan's Arch at Rome; and this, like the other gates, opens on a fine *allée* of trees. P. is surrounded with pleasant public walks and gardens, wooded heights, and vine-covered banks; and in the immediate neighborhood are numerous royal country palaces, as Sans-Souci, favorite residence of Frederick the Great, surrounded by a fine park, pleasure-grounds, and choicely stocked gardens, near which stands the Ruinenberg, with artificially constructed ruins, designed to conceal the water-works which supply the fountains of the palace. Near the park is the New Palace, of brick, built by Frederick the Great, begun 1763, 375 ft. in length, containing nearly 100 rooms, in many of which are costly works of art: it has of late been the residence of the crown-prince. The park contains also Charlottenhof, a pleasant villa, with lovely gardens, in which stands a Pompeian house. The Russian colony of Alexandrowska, with its Russian houses (for the Russian singers attached to the Prussian guards) and Greek church, lies near the Pfingstberg, which is surmounted with an unfinished palace, whence a fine view is obtained of the numerous royal parks and gardens, and the surrounding country. In the New Garden stands the Marble Palace, with arcades adorned with frescoes of the *Nibelungen Lied.* P. is the seat of the provincial govt. of Brandenburg, and of several of the state manufactories. Of these, the most important is the manufactory of arms, at which the rifles for the army are made. There are numerous private manufactories of machinery, chocolate, tobacco, cotton goods, silk, leather, wax-cloth, beer, etc. P. owes its creation as a town to the great elector Friedrich-Wilhelm, who built a royal palace here between 1660 and 73, and laid out several good streets. Prior to that period, it was an insignificant fishing village, built on the site of an ancient Wendish settlement. Pop. (1871) 43,784, besides 5,475 soldiers; (1880) 48,447, besides garrison about 7,000.

POTS'DAM EP'OCH (or POTSDAM SANDSTONE), in Geology: oldest groups of rocks in the PRIMORDIAL PERIOD (q.v.).

POTSHARE, n. *pŏt'shār:* OE. for POTSHERD.

POTSHERD, n. *pŏt'shėrd* [Eng. *pot*, and AS. *sceard*, a fragment: Dut. *schroode*, a bit of paper]: a fragment or bit of a broken pot or earthen vessel.

POTSTONE, *pŏt'stōn* (*Lapis Ollaris* of the anc. Romans): variety of Talc (q.v.), or rather a massive talc: it may be classed as a Steatite (q.v.), by which name it is often called. It is generally of grayish-green color, sometimes dark green; occurring massive, or in granular concretions; soft and easily cut when newly dug up; greasy to the touch, and infusible even before the blowpipe. It becomes hard after exposure to the air. It is made into hearths, stoves, pots, and other household utensils, which communicate no bad taste to anything contained in them, and when greasy can be cleaned by the fire. It was well known to the ancients; and Pliny describes the manner of making vessels of it. Numerous vessels rudely made by the N. American Indians, from this stone, have been unearthed. It is now quarried in Vt., N. H., Mass., Md., Va., N. C., and elsewhere. One of its uses is to lubricate the bearings of iron wheels. It was anciently procured in abundance in the Isle of Siphnos (now Siphanto), one of the Cyclades, and in Upper Egypt. Large quarries of it were wrought on the Lake of Como, from about the beginning of the Christian era, to 1618, Aug. 25, when they fell in, causing the destruction of the neighboring town of Pleurs, in which it was wrought into culinary vessels, slabs for ovens, etc. It is quarried in the Valais, where it is called *Giltstein;* in Norway, Sweden, Greenland, near Hudson's Bay, etc. —*Potstone* denotes also pear-shaped concretions of flint with a central cavity through the longer axis: some have been found 3 ft. in height, 1 ft. in diameter.

POTT, *pŏt*, AUGUST FRIEDRICH: philologist: b. Nettelrede, 1802, attended school at Hanover, studied theology and philology at Göttingen (1821), and became prof. of the science of language in the Univ. of Halle 1833. Next to W. Humboldt, Bopp, and Grimm, P. stands prominent in the new science of comparative philology. The foundation of his reputation was laid by *Etymologische Forschungen* (Etymological Researches, 2 vols., Lemgo 1833–36), a work second in importance only to Bopp's *Comparative Grammar.* In a well-known article in Ersch and Gruber's Encyclopedia, *Indogermanischer Sprachstamm* (2d sect. XVIII.), he gave a masterly sketch of the Aryan (q.v.) languages. In numerous articles in periodicals, and in separately published treatises (e.g., *De Borussico-Lithuanicæ tam in Slavicis quam in Letticis Linguis Principatu*, Halle 1837–41; and *Die Zigeuner in Europa und Asien*, 2 vols., Halle 1844–5), he carried his researches into special fields of this great province. *Die Quinare und Vigesimale Zählmethode* (The Quinary and Vigesimal Notation, Halle 1847), and *Die Personennamen* (Proper Names, Leip. 1853), are admirable treatises, containing an overwhelming mass of information, and showing astonishing knowledge, not only of the Aryan languages, but of those of other Asiatic, African, and American races. In 1856 he published a work on the *Difference of Races from a Philological Point of View*, and in 1868 one on the *Diversities of European Languages.*

POTT, Percival: 1713–88; b. London: surgeon. Besides important improvements in the practice of surgery, he made valuable researches into the causes of disease, notably one on angular curvature of the spine, since named Pott's disease. He was author of many very able works, among which are: *Treatise on Rupture* (1756); *An Account of a Particular Kind of Rupture, the Hernia Congenita* (1757); *Observations on the Nature and Consequences of Wounds and Contusions of the Head* (1760); *Remarks on That Kind of Palsy of the Limbs Which Attends Curvature of the Spine* (1779). He was one of the chief surgeons of St. Bartholomew's Hospital, Smithfield, London, 1749–87.

POTTAGE, n. *pŏt′tāj* [F. *potage*, pottage, that which is boiled in a pot—from *pot*, a pot]: porridge; a mess of meat and vegetables boiled together to softness in water; food for drinking rather than eating, as a soup.

POTTAWATTAMIES, *pŏt-ta-wŏt′a-mĭz:* tribe of N. Amer. Indians of the Algonquin family, occupying a large portion of Mich.; and sub-divided into numerous semi-independent bands when first known to the whites. They lived by hunting and fishing; raised some corn; and during the 17th c. were constantly at war with neighboring tribes. The Iroquois drove them w. to Green Bay, but through French influence they recovered their old territory and established themselves also in n. Ind. and Ill. They entered the conspiracy of Pontiac (q.v.); were allied with the English during the revolution and the war 1812–15; were subdued by Gen. Wayne; and signed treaties with the govt. 1795, 1815, 62, and 67. Under the latter treaty some of the P. became citizens and settled in the present Oklahoma Terr., and others, chiefly of the Prairie band, decided to hold lands as a tribe, and were settled in Wis., Mich., Kan., and Ind. Terr. In 1890 the largest number were in Oklahoma and Kan.—viz., Oklahoma 247 males, 233 females (480); Kan. 251 males, 211 females (462); together 498 males, 444 females (942).

POTTER, v. *pŏt′tėr* [Dut. *poteren*, also *peuteren*, to finger, to pick with the finger: prov. Eng. *pote;* Sw. *pata*, to poke or pick]: to stir or disorder anything; to work or be busy in trifling matters. Pot′tering, imp. Pot′tered, pp. *-tėrd.*

POTTER, *pŏt′ėr*, **Alonzo**, d.d., ll.d.: 1800, July 6—1865, July 4; b. Beekman (now La Grange), N. Y.: Prot. Episc. bp. of Penn. He graduated at Union College 1818; joined the Prot. Episc. Church; studied for its ministry with the Rev. Samuel H. Turner, d.d.; was appointed tutor in Union College; and was chosen prof. of mathematics and nat. philos. there 1821. In 1822 he was ordained deacon, 1823 priest; 1825 was elected pres. of Hobart College, but declined; 1826–31 was rector of St. Paul's Church, Boston; 1832 was recalled to Union College and soon afterward chosen vice-pres.; 1835 was elected asst. bp. of Mass. and declined; declined also the bishoprics of w. N. Y. and of R. I.; and 1845, Sep. 23, was consecrated bp. of Penn. During his episcopate of 20 years he delivered 60 lectures on *Nat. Theol. and Christian Evidences* before the Lowell Institute, Boston, 1845–53; inaugurated the convocation system in his diocese; promoted the formation of young men's lyceums and workingmen's institutes; projected the Prot. Episc. Hospital and the Prot. Episc. Divinity School in Philadelphia; and saw 35 new churches erected in that city. He received 1846 the degree D.D. from Harvard and LL.D. from Union.

POT'TER, CLARKSON NOTT, LL.D.: lawyer: 1825, Apr. 25—1882, Jan. 23; b. Schenectady, N. Y.; son of Bp. Alonzo P. He graduated at Union College 1842; studied and practiced civil engineering; began practicing law in New York 1848; became active in politics as a democrat; was member of congress from the 12th N. Y. dist. 1869–75 and 1877–81; and was defeated as democratic candidate for lieut.gov. 1879. He had been pres. of the Amer. Bar Association.

POT'TER, ELIPHALET NOTT, D.D., LL.D.: educator: b. Schenectady, 1836, Sep. 20; son of Bp. Alonzo P. He graduated at Union College 1861, and at Berkeley Divinity School 1862; was ordained deacon by his father 1862, and priest 1865; engaged in mission work in the Lehigh valley, Penn., 1862; became rector of the Church of the Nativity, S. Bethlehem, 1865; was sec. and prof. of ethics at Lehigh Univ. 1866–71; asst. rector of St. Paul's Church, Troy, 1869–71; and was elected pres. of Union College 1871; and chancellor of Union Univ., when the scope of the institution was enlarged, 1873. In 1884 he resigned the presidency, declined a call to the presidency of the proposed Univ. of Cal., as well as the office of Prot. Episc. bp. of Neb., to which he had been elected, and accepted a prior call to the presidency of Hobart College, which he still (1891) holds. He received the degree D.D. from Columbia 1871, and LL.D. from Williams 1880.

POT'TER, ELISHA REYNOLDS: 1764, Nov. 5—1835, Sep. 26; b. S. Kingston, R. I.: lawyer. He was apprenticed to a blacksmith, served in the army the latter part of the revolution, and afterward gained distinction at the bar. He was a member of the R. I. assembly from 1793 till his death, and 5 times its speaker; and served in congress as a federalist 1796–7 and 1809–15, rendering important committee service.—His son, ELISHA REYNOLDS P., 1811, June 20—1882, Apr. 10, graduated at Harvard 1830, was admitted to the bar, served in congress as a whig 1843–45, and became associate justice of the R. I. supreme court 1868, and afterward chief-justice.

POT′TER, **HAZARD ARNOLD**, M.D.: 1810, Dec. 21—1869, Dec. 2; b. Potter, Yates co., N. Y. He graduated M.D. at Bowdoin 1835, began practice, and attained great skill as a surgeon. He was one of the first to discover (1837) and to make known the presence of arterial blood in the veins of a portion of the body paralyzed by injury to the spinal cord. He successfully performed many difficult operations. He served as a surgeon in the civil war. Dr. P. died at Geneva, N. Y.

POT′TER, **HENRY CODMAN**, D.D., LL.D.: Prot. Episc. bp. of New York: b. Schenectady, 1835, May 25; son of Bp. Alonzo P. and nephew of Bp. Horatio P. He graduated at the Theol. Seminary of Va. 1857; was ordained deacon the same year, priest 1858; was rector of Christ Church, Greensburg, Penn., 1857–59, and of St. John's Church, Troy, 1859–66; asst. minister of Trinity Church, Boston, 1866–68, and rector of Grace Church, New York, 1868–84; was consecrated asst. bp. of New York and invested with full jurisdiction 1883, Oct. 20; and on the death of his uncle, Bp. Horatio P., 1887, Jan. 2, became full bp. In 1862 he declined a call to Christ Church, Cincinnati; 1863 was elected pres. of Kenyon College and declined; 1875 was elected bp. of Io. and declined; and 1866–83 was sec. of the house of bps. in the general convention of the Prot. Episc. Church. 1887, Feb. 4, he delivered an address at the centennial observance of the consecration of the first bps. of the Prot. Episc. Church in America, in Lambeth Palace Chapel, London; and 1889, Apr. 29, preached the sermon at the centennial celebration of the inauguration of Pres. Washington, in St. Paul's Church, New York. He received the degree D.D. from Union 1865, and Trinity 1884; and LL.D. from Union 1877.

POT′TER, **HORATIO**, D.D., LL.D., D.C.L.: Prot. Episc. bp. of N. Y.: 1802, Feb. 9—1887, Jan. 2; b. Beekman, N. Y.; bro. of Bp. Alonzo P. He graduated at Union College 1826; was ordained deacon 1827, priest 1828; was prof. of mathematics and nat. philos. in Trinity College, Hartford, 1828–33; declined the presidency of the college 1833; was rector of St. Peter's Church, Albany, till 1854; and was consecrated provisional bp. of N. Y. 1854, Nov. 22. This office was created by special canon 1850 to provide an actual bp. in place of Bp. Benjamin T. Onderdonk, canonically suspended 1844 and then living. On the death of Bp. Onderdonk 1861, P. became full bp. in name as well as fact. Henry U. Onderdonk, bro. of the bp. of New York, became bp. of Penn., was also canonically suspended, and was succeeded by Bp. P.'s brother, Alonzo. In 1854 the diocese comprised 21,750 sq. m.; 1868 it was divided by setting off the dioceses of Albany and Long Island, and Bp. P.'s territory was reduced to 5,500 square m. In 1867 and 77 he attended conferences at Lambeth Palace, London; 1879 was given a grand reception in the Acad. of Music in celebration of the completion of 25 years of his episcopate; and 1883 was relieved of the cares of the diocese by the election of his nephew, Henry Codman P. (q.v.), as asst. bp. He received the degree D.D. from Trinity 1838, LL.D. from Hobart 1856, and D.C.L. from Oxford 1860.

POT′TER, JOHN, D.D.: Archbishop of Canterbury; scholar and divine: about 1674–1747, Oct. 10; b. Wakefield, in Yorkshire; son of a linen-draper. He studied with great diligence and success at Oxford, where he took his degree M.A. 1694, and in the same year went into orders in the church. He was appointed chaplain to Queen Anne 1706, prof. of divinity at Oxford 1708, bp. of Oxford 1715; and in 1737 attained the highest dignity in the English Church—the archbishopric of Canterbury. P. was a superior scholar, but of the dull and plodding sort, seldom casting clear and searching light on his subject; his habit of mind is uncritical; consequently much of his learned labor is now forgotten. P.'s principal work is his *Archæologia Græca* ('Antiquities of Greece,' 2 vols. 1698), superseded for many years by Dr. W. Smith's *Dictionary of Greek and Roman Antiquities:* besides this may be mentioned his ed. of *Lycophron* (1697), and of *Clemens Alexandrinus* (1715)—the last often reprinted and still valued. As a church dignitary, the linen-draper's son is said to have been haughty; he was very 'zealous' in matters ecclesiastical, a vigilant guardian of clerical interests, and excessively 'orthodox.'

POT′TER, PAUL: 1625–54: animal painter; a distinguished master of the Dutch school: b. Enkhuisen, Holland. He was pupil of his father, Pieter P., an obscure painter. His progress was so rapid that, at the age of 15, his reputation as an artist was high. He left Amsterdam, and established himself at the Hague, where, 1650, he was married; in 1652 he returned to Amsterdam, at the solicitation of the burgomaster Tulp, who commissioned him to paint a great number of works; but his health, which was delicate, gave way under constant application at his easel, and he died before he had completed his 29th year. Paul P.'s cattle-pieces are perhaps more highly valued than like pictures by any other master. For Maurice, Prince of Orange, P. painted the life-size *Young Bull*, now one of the chief attractions in the gallery of the Hague.

POT′TER, ROBERT B.: soldier: 1829, July 16—1887, Feb. 19; b. Schenectady, N. Y.; son of Bp. Alonzo P. He studied at Union College, but did not graduate. At the beginning of the civil war he was practicing law in New York. He immediately volunteered, and was commissioned major of the 51st N. Y. regt. He led the assault on Roanoke Island, and was in the battles of New Berne, Cedar Mountain, Manassas, Chantilly, and Fredericksburg; captured the stone bridge at Antietam; led a division at Vicksburg and a corps in the Tenn. campaign. 1863, Mar. 13, he was made brig.gen., having previously been commissioned lieut.col. and col. 1865, Sep. 29, he was commissioned major-gen. of vols. He was with Grant in the closing campaign in Va., again commanding a division. He was wounded a number of times, the most seriously in the assault on Petersburg (1865, April 2), where he was shot through the body. He was mustered out of the army 1866, Jan. He died at Newport, Rhode Island.

POTTERIES, *pŏt'ėr-ĭz*, THE: district in Staffordshire, England; nine m. long, including Hanley, Burslem, Fenton, and other places, now incorporated with the parliamentary borough of Stoke-upon-Trent. The inhabitants of the district are mostly connected with the manufacture of pottery.

POTTER, POTTERY, etc.: see under POT.

POT'TER'S CLAY, or FIGULINE, *fĭg'u-lĭn* or *-lēn:* kind of Clay (q.v.); either slaty and massive, or, more generally, earthy; yellow, yellowish-white, gray, or sometimes greenish; adhering strongly to the tongue, and forming a paste with water. The earthy variety is sometimes very loose, sometimes almost solid. This mineral is very common in alluvial districts, and sometimes occurs in beds of considerable thickness. It is used in potteries for manufacture of earthenware; different varieties of it being adapted to different kinds of pottery. Houses are built in Egypt of pots of this material.—P. C. is used in agriculture also for improvement of light sandy and calcareous soils.

In the United States, beds of P. C. have been found in nearly every state, and since the close of the civil war have been noticeably developed in Me., Conn., N. Y., N. J., Penn., Del., O., Ill., Ind., Mo., Va., N. C., S. C., Ga., Tenn., and Tex. American china clay, known also as washed Kaolin (q.v.), costs $15—$17 per ton delivered at the potteries, and the commoner N. J. clay $6—$8. Prior to the civil war the few potteries in the United States were almost wholly dependent on foreign clays and earths; but the development of the industry since and the opening and working of new domestic beds have steadily reduced importation of raw materials. During the fiscal year ending 1890, June 30, the total imports of clays and earths, including china clay, were 49,623 tons, valued at $332,081. The combined American and foreign raw materials were used in the manufacture of various grades of clay products, such as brick, terra cotta, red ware, yellow ware, etc.; but the great bulk was used in white and decorated earthenware, such as brown earthen and common stone ware not ornamented, plain white or cream-colored earthenware, and stone or crockery ware, not ornamented, ornamented or decorated earthenware, plain white china, porcelain, parian, or bisque ware, not ornamented, and china, porcelain, parian, or bisque ware, including vases and statuettes, decorated or ornamented.

POT′TERY: term denoting all objects of baked clay. The invention of P. dates from the most remote period, and its application is almost universal—articles of P. being in use among races even semi-barbarous. The art of molding or fashioning vessels of moist clay, and subsequently drying them in the sun, is so obvious that it is not above the intelligence of the rudest savage. Hence, at the most remote antiquity, the Egyptians, to whom precedence must be assigned in this art, made bricks of unbaked or sun-dried clay, cemented with straw, which were quite sufficient for purposes of construction in a country where little or no rain falls. These bricks, in shape resembling those in use at the present day, but larger, were impressed at the earliest period with the marks of the brickmaker, and later with names and titles of the kings for whose constructions they were made. The oppression of the Hebrews consisted chiefly in compelling them to work in the brick-fields—a task imposed on captives taken in war and reduced to slavery; and the fortresses of Pithom and Rameses, on the Egyptian frontiers, were made of bricks by the Hebrews. Kiln-dried bricks, in fact, did not come into use in Egypt till the Roman dominion, though some exceptional objects of this class of bricks have been found, such as a kind of conical plug, stamped on the base with names of the tenants of the tombs. A few other objects were made in unbaked clay; but vases of baked earthenware were in use at the earliest period of Egyptian civilization, and are contemporary with the Pyramids themselves. The Egyptians made a red ware, a pale red or yellow ware, and a lustrous or polished red ware—the first two for vases intended for culinary and other purposes; the last for vases of more refined use, such as holding perfumes, wine, honey, and other delicacies. But the most remarkable Egyptian P. was the so-called porcelain, made of a fine sand or frit loosely fused together, and covered

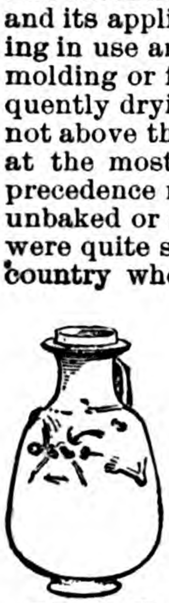


Fig. 1.—Unglazed Egyptian Bottle in the British Museum.

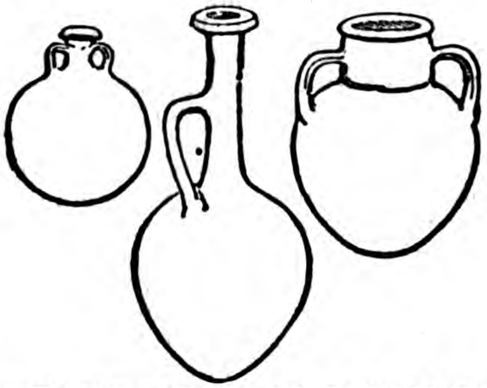


Fig. 2.—Glazed Egyptian Vases in the British Museum.

with a thick siliceous glaze of a blue, green, white, purple, or yellow color. This famous ware, the porcelain of the old world, sometimes exhibits the most beautiful tints of blue, a color produced by an oxide of copper, and which is still unrivalled. Objects were made of this material for decoration of the dead and for the toilet. They were exported from Egypt to the neighboring countries, and are found alike in the tombs of the Greek isles, the sepulchres of Etruria, and the graves of Greece. Most of the figures of deities, the sepulchral ones deposited with the dead, a few elegant vases, portions of inlaying, objects of the toilet, and beads and other decorations, are of this porcelain. Still finer work of this kind was produced by carving scarabæi and other small objects in steatite, and covering them with a blue glaze, to combine brilliancy of color with delicacy of execution. The Egyptians had at the earliest period the simpler manipulations and tools of P.—the potter's lathe or wheel, molds for stamping objects, and various other tools. On the decadence of the country under the Greeks and Romans, the P. became assimilated to the Greek and Roman.

In the contemporary empires of Assyria and Babylon, also, P. was in use at an early period. Sun-dried and kiln-dried bricks were made in the reigns of Urukh and other monarchs of the oldest Babylonian dynasties, about B.C. 2000. Platforms for elevating the larger edifices were made of them; and the bricks, like the Egyptian, were stamped with the names and titles of the monarchs, to which was added the locality for which they were intended. Glazed bricks of various colors, occasionally enriched with scenes and ornamental designs, were introduced into constructions; and Semiramis is said to have adorned with them the walls of Babylon. The Assyrians and Babylonians employed this material for historical and legal purposes, making cylinders, hexagonal prisms, and purse-shaped objects of it, on which were impressed extensive writings. One of these remarkable objects contains the account of the campaign of Sennacherib against Judæa, and of the tributes of Hezekiah. The Assyrian and Babylonian P. resembles, but is not entirely the same as, the Egyptian; being of a pale red ware, of thinner substance, finer paste, and more refined shape. At a later period, figures of deities were modelled in terra cotta. The glazed ware of Babylon and Assyria is coarser than the finest Egyptian, and is the earliest instance of the employment of materials for coloring like those now in use; the glaze, however, is siliceous. The objects most remarkable for size are the large coffins found at Warka, supposed by some to be the Ur of the Chaldees, with oval covers, and ornaments of the Sassanian period. The potteries of Mesopotamia continued to flourish under the Parthian and Sassanian monarchs till the conquest of Asia by the Mohammedans.

The potter's art is mentioned in the Scriptures, but few specimens of Hebrew wares have been found. Some vases have been exhumed in Phœnicia. The most remarkable P. of antiquity was the Greek, which seems to have had another origin than the oriental. The terms *keramos* and *ostrakon* were applied by them to this material, and they made vases and other objects in sun-dried clay, terra cotta, and glazed ware. The use of bricks was not extensive in Greece, though some public edifices were made of them. Their first use is attributed to Hyperbius of Crete, and Euryalus or Agrolas. The bricks were made by a mold (*plaision*) and were called after the numbers of palm's-length. Some were so light that they floated on water. Besides bricks, tiles, cornices, artificial ornaments, friezes, pipes for conducting water, and drains were molded in terra cotta. Statues and small figures, *pelinoi*, gayly and appropriately painted, covered with a *leucoma*, or white ground, and occasionally partly gilded, were in common use for votive and other purposes, and sold at a cheap price by the figurist (*koroplathos*). Dolls, cones, and various smaller objects were made by the potters; they were sometimes modelled, but more generally molded. The Greeks claimed the invention of the potter's wheel; and the principal cities contested the honor of the art, which is mentioned in Homer, and attributed to Corœbus of Athens, Hyperbius of Corinth, or Talos, nephew of Dædalus. Numerous vases for all ordinary purposes of life were made by it, and others of large form, decorated also by separate ornaments, *emblemata*, attached to them. Large casks or *pithoi* were modelled on a framework of wood. Great quantities of amphoræ, manufactured on the wheel, and used to contain the choice wines of Greece, were exported from Rhodes and other cities; and their debris are found in the Crimea, Alexandria, Sicily, and other cities. Some of the earlier specimens of glazed earthenware were painted with colors in fresco or encaustic, from which afterward came the more elaborate pictures on the glazed vases of Greece. To these succeeded two or three classes of painted ware, consisting of rude representations of ani-

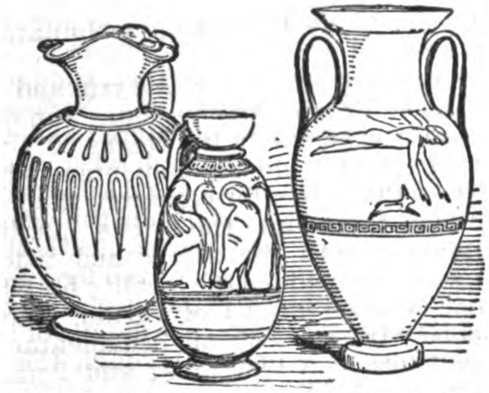


Fig. 3.—Greek Vases of Various Styles. From the British Museum.

mals laid upon the pale red ground of the clay in brown outline—a style prevalent at Athens and Asia Minor, which was followed by the potteries of Corinth, or the so-called Phœnician or Egyptian style. The paste of the vases is of light red or yellow; the figures in black or maroon, with portions enriched with crimson or purple; the backgrounds of pale straw or lemon color; the animals, of larger size than those of the Athenian vases, intermingled with chimæras and other monsters; the backgrounds variegated with flowers—the whole derived from oriental art. Gradually, human figures, with all the characteristics of archaic Greek art, were introduced, with accompanying inscriptions, which cannot be later than B.C. 6th or 5th c. The subjects of these vases were from the oldest Greek myths. The style of this P. by degrees improved: the paste became pale red or salmon color; the human figures, at first subordinate, replaced the friezes of animal and large ornaments. As the improvement went on, the backgrounds were made of bright orange-red color, the figures of deep black; while portions, as the hair, garments, and flesh of female figures, were white. The style of art became much freer, though retaining the rigidity of the Æginetan school. Names of figures represented, of the artists who painted and the potters who made the wares, were added, with speeches, and the names of celebrated beauties and athletes of the day. In these styles, the vases made on the wheel appear, while yet soft, to have had the subjects traced upon them with a finely pointed tool; the figures were then filled in with a lucid black pigment of manganese, and then returned to the furnace. The details of the muscles and other portions were incised through the black with a sharp tool, to show the lighter background; and the purples, crimsons, blues, and other colors were laid on. The subjects are chiefly from the war of Troy and the heroic age; and the shapes in use were oil-jars (*lecythoi*), water-pails (*hydriæ*), wine-vases (*crateres*), wine-jugs (*œnochoœ*), and *amphoræ*. They seem to have continued in use till about B.C. 450 or 420, when the red figures were substituted for black, by tracing, as before, the figures on the clay, then running round them a thick line of flock, and finally filling up the background entirely with black color—the muscles and inner markings not being incised, but traced in black and brown outlines. The earlier vases of this class, which are of the strong style, resemble those of the black figures; but the style gradually improved, and resembled the art of Phidias and Zeuxis; while the letters are those in use after the archonship of Euclid, B.C. 403. The style and form of these vases changed according to the art of the period, till the ultimate disuse of fictile or painted ware, about B.C. 300, when the conquests of Alexander the Great and the increase of luxury caused it to be superseded by vases in metals. In its last stage, the P. became molded, and was glazed entirely black, or else variegated with opaque white figures and ornaments. The subjects of these later vases differ considerably from the earlier, being chiefly from the theatre or from myths of the later poets. Vases of this description are found in Greece, the isles of the Archipelago, and Italy; into which latter country they appear to have been imported from Greece.

In Italy, indeed, the Etruscans, at an early period, and perhaps some of the principal cities in Magna Græcia, manufactured their own P. That of the Etruscans consists principally of three kinds—an unglazed red ware; a lustrous brown ware, made also by the neighboring Sabines and Oscans; and a black ware, whose paste or substance is black throughout, not superficial, as among the Greeks, and made by mixing some coloring material with the clay. The Etruscan pottery is rarely painted—the black ware never—but it is distinguished by having ornaments in salient and bas-relief modelled or molded on it, and by the shapes of the vases apparently being derived from works in metal, and reproducing the fantastic combinations of oriental art. This ware, in use from B.C. 500–320, the source from which subsequently arose the Aretine and Roman P., was ornamented sometimes with incised ornaments; the subjects, however, are generally uninteresting, and it never attained high position in art. The Etruscans, however, in later times imitated the painted vases of Greece; but their clay is much paler, the drawing coarser, and the shapes are less elegant. In terra-cotta statues particularly they excelled, and supplied the Romans with the figures of their divinities. Even sarcophagi were of this material.

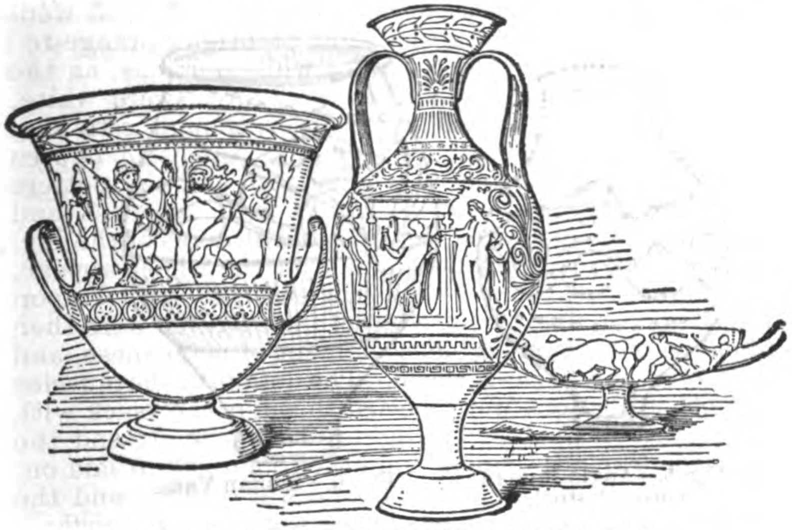


Fig. 4.—Greek Vases of Later Style, found in Italy.

On the decline of the P. of the Greeks and Etruscans, a new kind of ware was made at Arezzo, or Aretium, to which has been given the name Aretine, and which resembled the later ware of the Greeks. It is evidently imitated from works in metal, in all probability from the chased cups of silver and gold which began to come into use in Italy; and was a continuation of the later molded wares of Greece and Italy. The vases were of bright red or black; the paste, uniform in color throughout, but covered with a lustrous siliceous glaze. The red nearly resembles in color and texture a coarse sealing-wax; the paste is often remarkably fine. The vases, generally small, were turned on the lathe; the ornaments were molded separately, and attached to the vases: patterns were produced by repetition of the same mold, or by placing bas-reliefs from various molds on the vases. This kind of P. was made first at Arezzo; but subsequently, or nearly simultaneously, was produced at Capua and Cumæ in the 1st c. after Christ. It afterward extended over all the Roman world, and was made in Gaul and Germany. It was called Samian ware under the republic, and was at first extremely fine, but deteriorated under the last of the 12 Cæsars, and is no longer found under the Antonines; a red ware, glazed with red-lead and copper, having been substituted for it. The names of several hundred potters are found stamped upon extant specimens of this ware, of which some are evidently of Gaulish or British origin. These names are followed by F., *fecit*, or made; M., *manu*, or by the hand of; and OF., *officina*, or establishment. The ware was extensively exported to Britain and the remoter provinces of the empire; and wherever found, shows the influence of Roman civilization. Furnaces for it have been found in France and Germany, but not in England. The other kinds of Roman ware were local, evidently made in the localities where found, but with inferior ornamentation. Black ware seems to have succeeded this, and to have been produced by confining the smoke of the furnace, and throwing it down upon the heated ware. In Britain, varieties of this ware were made at Castor in Northamptonshire, ornamented with

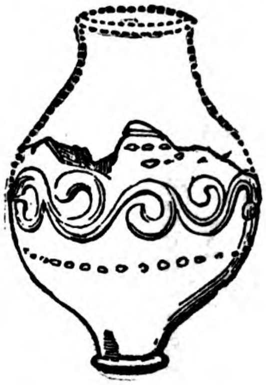


Fig. 5.—Anglo-Roman Vase [Castor].

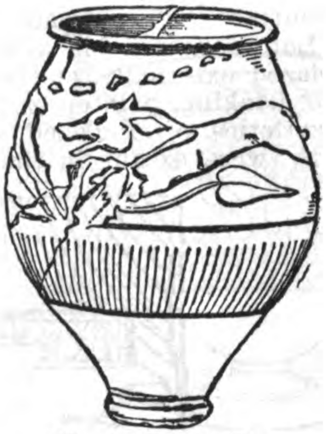


Fig. 6.—Roman Vase.

bas-relief, laid on by the process of depositing a fluid clay on the wet ware, and molding it with a tool. The style of art is Gaulish. Other vases of glazed ware were manufactured at Upchurch near Rochester, and at Crockhill in the New Forest. They have only a few ornaments, either stamped or painted in a white pipe-clay on the surface. These vases are probably as late as the 3d c. Later arose a black ware, generally bottles or jugs, glazed externally, and with single words, invitations to drinking, painted on them in a white pipe-clay. Many varieties of unglazed ware, red, yellow, white, and gray, were extant in the 2d and 3d c. The large culinary and other vessels were made of these—casks (*dolia*), *amphoræ*, jugs (*lagenæ*), and mortars (*mortaria*)—the last at Lyon. The Romans made great use of brickwork terra cotta. All over the empire, bricks were made for public and private buildings, and stamped at Rome with the names of the proprietors of the land, the potters, and the consulate of the period, till the middle of the 3d c. Bricks were extensively manufactured by the legionaries also, and bear their names and titles. The graves of the soldiery were often constructed of them. At Rome, the last inscribed bricks are those of

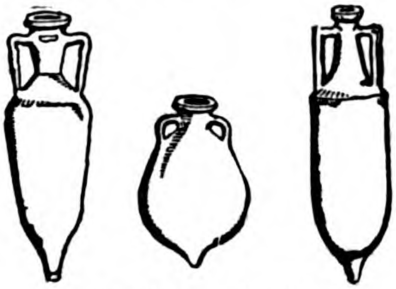


Fig. 7.—Roman Amphoræ.

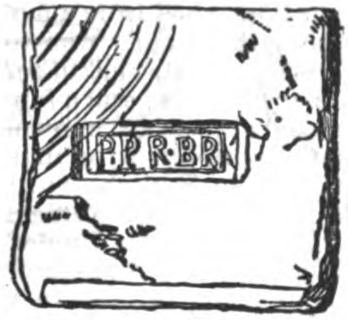


Fig. 8.—Roman Flange Tile.

Fig. 9.—Roman Flue Tile.

Theodoric; none so late have been found in Britain or Gaul. Tiles, cornices, roof ornaments, and gutters were formed of terra cotta, so were the votive figures offered to the gods; but they all disappeared at the invasion of the northern barbarians, though they continued till then to be manufactured by local potteries.

Among the northern nations, especially the Celts and Scandinavians, long prior to the Roman conquests of Gaul and Britain, at the remote age of the Stone and Bronze periods, large and small vases, perhaps originally for domestic, but subsequently for mortuary, purposes, are found among the cromlechs, tumuli, and graves of n. Europe. They are formed of a coarse clay, mixed with small pebbles, and have been feebly baked by surrounding them with hay, dried ferns, or other combustible vegetable matters, which have been burned inside and around them. The interior of the walls is black; the exterior of pale brown color. Their mouths are large, the ornaments, hatchings, and rude lines sometimes making an elaborate pattern or tattooing all over the vase. Those from Britain were called by the Romans *bascaudæ*, or baskets. A modification of this class of ware was continued under the Saxons and Merovingians, and is distinct from the Gallo-Roman and Romano-British potteries: the clay being better baked, and the ornaments, stamped or impressed from a mold, more regular. The use of P. among these races was to a great extent superseded by glass, metal, and other substances for drinking and culinary vessels; and a few or no specimens of mediæval unglazed vessels are known. Terra cotta, indeed, continued to be applied for making figures from the 14th to the 18th c. in Europe; but in England even the use of bricks, a manufacture difficult to have been lost, was restored by Alfred. Unglazed ware was, in fact, superseded or abandoned in Europe after the fall of the Roman empire; but in modern times the use of terra-cotta and like ware is found all over Europe, Asia, and Africa, varying in texture and excellence from the coarse flower-pots to the thin and graceful water-bottles of the Arabs and modern Egyptians. Even the Nigritic races continue to manufacture a feebly baked earthenware, rudely colored with pigments not baked on the ware. In America, the making of unglazed earthenware seems to date from the most remote antiquity. The vases and other objects found in the n. portions of America, indeed, are of the rudest kind, and bear a striking resemblance to those of the early Scandinavian, Celtic, and Teutonic graves, in paste, shape, and ornamentation. The Mexican and Peruvian potteries, however, evince much greater mastery of the art, and both are modelled with great spirit, gayly colored, and profusely ornamented. Some of the oldest Peruvian wares, indeed, rival in their modelling European art; but they never attain to glazing. The other unglazed wares of the new world differ according to the localities of their manufacture, and in the most highly civilized portions reflect or rival the arts of the people by which the country was colonized. Those of the existing native races are very feeble, and the processes are sometimes accompanied by magic ceremonies. The P. of the s. hemisphere is quite recent, as none of the races seem to have been acquainted with the art. The Fijis, indeed, have a ware glazed with the resin of a tree, but it appears to have been derived from Europe.

The knowledge of glazes, originally acquired by the Egyptians and Assyrians, was continued under the Roman empire at Alexandria, and appears to have been transmitted to the Persians, Moors, and Arabs. Faiences and enamelled bricks and plaques were in use among them in the 12th c., and among the Hindus in the 14th c. The Moors introduced into Spain the use of glazed tiles about 711, specimens of which, called *Azulejos*, as old as the 13th c., are found in the Alhambra. Besides these, the manufacture of glazed or enamelled faiences, distinguished by a metallic iridescence, came into use from the 13th c. in Spain. In Italy, they are supposed to have been introduced as early as the conquest of Majorca by the Pisans, 1115; but the first appearance of Italian enamelled faience, precursor of modern porcelain, does not date earlier than about 1420, when it was used for subjects in relief by Lucca della Robbia. About a century later, plates and other ware were manufactured at Pesaro and Gubbio, decorated with subjects from the compositions of Raphael and Marc Antonio, painted in gay and brilliant colors. But the establishment was abandoned 1574, though pieces of *majolica* continued to be fabricated in various cities of Italy till the 18th c. From Italy, this

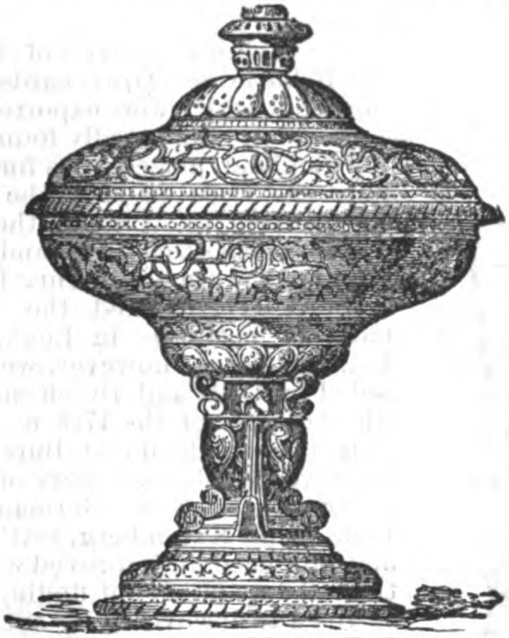


Fig. 10.—Vase of Henry II. Ware.

enamelled ware passed into France 1590, with Catharine de' Medici, where it was manufactured till the end of the 17th c. In 1555 the celebrated Palissy discovered at Saintes, France, the art of glazing or enamelling a gray paste, and introduced dishes and other objects with fruit, fish, and animals, molded from life, distributed over the surface, as a kind of ornamental ware. At the same time, or earlier, was made what is called Henry II. ware, which is now so precious, consisting of glazed white ornamental pieces. Glazed or Norman tiles, as they are called, date from two centuries before. At the close of the 13th c., glazed ware was made in Alsace; but not till two centuries later was majolica fabricated at Nuremberg; and the manufacture was continued in various parts of Germany till the 18th c. Delft, which gave its name to its own fabric, is said to have produced a glazed ware as early as 1360, and continued to do so till the 19th century.

Holland was noted chiefly for its bottles of stoneware, glazed by salt, called Bellarmines, Graybeards, or Bonifaces; and for its tankards, which were exported all over Europe in the 16th c., and are repeatedly found in London excavations. In England, glazed tiles for religious purposes were made by the monastic orders from the 12th to the 16th c.; and glazed bottles, jugs, and cups are found of the time of Henry II.; while Edward III. favored the establishment of potteries in England. The English wares, however, were superseded by Delft and Dutch stonewares till the close of the 17th c., when the coarse wares made at Burslem were improved by the discovery of salt and other glazes. Some Germans, named Elers, from Nuremberg, settled there, and produced an improved ware called the red Japanese; but finding that the secret was discovered by Astbury, left for Lambeth, where they established themselves 1710. From this period, various improvements were introduced by Astbury, Booth, and finally by Wedgwood, who discovered more suitable clays 1759, and called to his assistance the arts of design, by the employment of Flaxman for bas-reliefs and figures. The applications of copper-plate printing and gilding were subsequently discovered. Still later, other materials, as felspar and bones, were used in the composition of this P. Delftstone and other wares were made at various places, as Liverpool, Lowestoft, and elsewhere; but, after many vicissitudes, most of the potteries have disappeared, except those of the stoneware at Lambeth and Vauxhall.

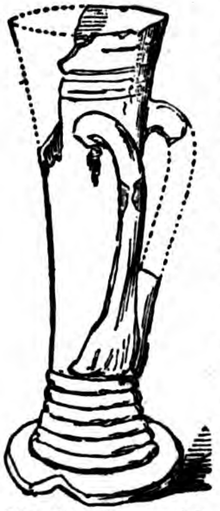


Fig. 11.—Tyg with Two Handles, 14th c.

None of this ware, however, was of the nature of the Chinese porcelain, which had been imported by the

Arabs in the 13th c., was known in Italy in 1330, and was imported into France as early as 1370, and into England much later. The name Porcelain (q.v.), from *porcellana*, an obscure Portuguese word, supposed to mean a shell, is applied to a mixture of alumina or *kaolin* and silex or *petunse*, which, when baked, does not fuse at a temperature as high as 140° of Wedgwood's pyrometer, and the glaze of which is incapable of being scratched by a knife. This porcelain, called 'hard porcelain,' is said to have been invented at Sin-ping, in China, about B.C. 185, and rose to great importance at King-tih-ching, A.D. 557, where, 1712, 3,000 furnaces were in activity, and where the manufacture is still carried on. There are about 18 renowned potteries in the empire. The art of P. in China is said to be as old as B.C. 2599. In Japan, hard porcelain dates from B.C. 27; translucent porcelain was made about A.D. 672; but 1211-21, Kotosiro, a Japanese potter, went to China, to improve his process. There are 18 celebrated potteries in Japan; and in modern times the pieces exported come chiefly from Imali, in the province of Hizen. In 1644 the Dutch exported 44,943 pieces from Japan. At the beginning of the 16th c., the porcelain of China began to be extensively imported into Europe, and various unsuccessful attempts were made to discover the secret of its manufacture, but without success, both as to the material and as to the process. The Persians are said to have produced translucent pottery about the 15th c.

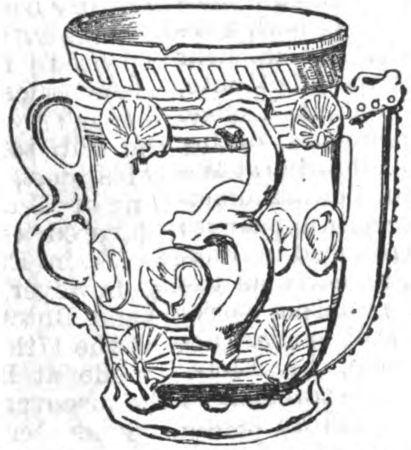


Fig. 12.—Tyg of Staffordshire Ware.

After some trials, which resulted in the production either of a kind of opaque glass or of stoneware, Böttcher or Böttger, an alchemist (who had been seized by Frederick-Augustus II. 1701), after Schnorr, 1709, had discovered white *kaolin* at Aue, produced from it a white hard porcelain at Meissen, near Dresden; and the porcelain establishment there was founded under royal auspices. Extraordinary precautions were taken to prevent the process being discovered, by imposing oaths on the workmen; and the process there pursued was not communicated till 1812 to Brongniart. The secret, however, was betrayed by Stöfzel, a workman of Meissen, who fled to Vienna 1720, where an imperial establishment was founded, which exists to this day. Other workmen carried the secret from those establishments all over Germany. Royal works were set up at Berlin 1755, St. Petersburg 1744, and Munich 1758. From this period, two different kinds of porcelain were made in Europe, a soft and a hard. In France, soft porcelain was made at St. Cloud 1695, and was not discontinued till 1804. The accidental discovery, by Madame Darnet, of *kaolin* at St. Yrieix la Perche, 1765, led to the production of hard porcelain at Sèvres, where, after 1800, only this kind was made. Various places in France made both kinds; and in Italy both were produced at La Doccia, near Florence, at Capo di Monte, near Naples, and at Venice. Other establishments, dating from the 18th c., flourish at Madrid and Oporto. The manufacture of soft porcelain appears to have been introduced in England, at Bow, as early as the 17th c., and the Chelsea works were set up still earlier, according to some, by Elers. Thence the art was transferred to Derby 1748; and an establishment at Worcester, founded 1751 by Dr. Wall, is said to have first printed on porcelain. Hard porcelain was made by Cookworthy at Plymouth 1705, and afterward at Bristol, but was abandoned as unprofitable, though again made by Minton in Staffordshire 1850. One of the last inventions in porcelain has been the introduction of Parian, or statuary, used for small figures and statues, by Copeland and Minton. Among the oriental nations, the production of porcelain seems limited to China and Japan, though faiences and glazed wares are manufactured all over the East. The production of a white porcelain, either soft or hard, capable of being molded and painted with various colors, effected a revolution in the ceramic art: sculptors were employed by the different establishments to mold small figures and other objects; and the vases, at first decorated with rude copies or poor imitations of their Chinese originals, by degrees introduced on their surfaces the art of the country where they were made. The paintings on porcelain

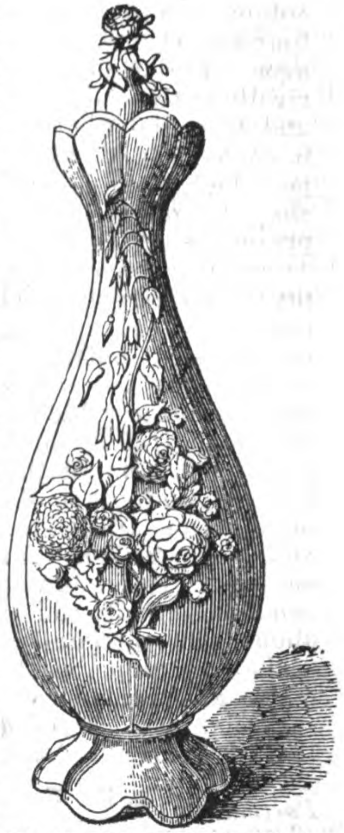


Fig. 13.—Staffordshire Minton.

thus resembled those on enamel, and when the pieces were of considerable dimensions, and painted by distinguished artists, became of great value. Thus, copies of works of Raphael and of Tintoretto, in the Exhibition of 1851, were valued at £1,000 and £880. Even ordinary cups, when painted with vignettes, have their value much augmented. So also the application of delicate colors, as blue, green, and rose-pink, added a charm not found in the monochrome glazed ware of the middle ages. For these, Dresden and Sèvres were formerly unrivalled; but the colors of late years have been changed, and do not equal the old. The style of art has varied in each century; the old rococo shapes having been superseded at the commencement of the 19th c. by classical shapes, and again by modified mediæval forms. The present age has been distinguished by an attempt to reproduce *majolica*, *palissy*, and other wares; by improvement of printing in colors; by invention of statuary porcelain, and an application of the material to other purposes, as buttons stamped or pressed from a mold or die. Besides the ornamentation of vases, a trademark is often added, either stamped in or painted on the ware. This, on the early majolica, had the date, place, and name of the artist; but the Dresden, Sèvres, Chelsea, and other establishments introduced devices, monograms, arms, etc.—e.g., swords, anchors, crowns, and other devices. The Chinese has devices, mottoes, names of makers, and the date of the reign when made, commencing with the first monarch of the Ming dynasty, about 1480, generally in red color, and imitating the seals or stamps used for sealing documents. These marks are continued to the present day (see below).

Brongniart, *Traité des Arts Céramiques* (8vo, Paris 1844); Birch, *Ancient Pottery* (1858); Marryat, *Pottery* (2d ed. 1864); Jacquemart and Le Blant, *Histoire de la Porcelaine* (1862); Eliza Meteyard, *Wedgwood and His Works* (1873); the Reports of the Exhibitions at London (1851,62), Paris (1855,67,78), and Philadelphia (1876).

Manufacture.—The dough-like condition into which clay can be worked with water, and the hardness that it may be made to acquire by burning, are qualities which have been turned to account by man from the earliest times, and on these the potter's art essentially depends; but there is great variety in clay, and it is only by knowing something of its nature and constituents that any real advance has been effected in P. If a piece of clay be examined, it will be found that it consists of exceedingly minute particles, held together by aggregation when moist; but if dried, it can be easily reduced to impalpable powder by mere pressure; and if, instead of drying, an excess of water be added, it may be so mixed and held in suspension in the water that it appears almost dissolved. In time, however, it is deposited as a sediment, and, when the excess of water is removed, it is a soft, tenacious paste, so non-elastic that it will retain, without change, the smallest impression made in it. This minute division of its particles, and the absence of elasticity, are its most valuable qualities. But all clays are not of the same purity and quality; the commonest is that of brick-fields, which is one of the most abundant substances in nature; but it is so mixed with iron and other foreign ingredients, that except for bricks, tiles, and the coarsest kinds of P., it is not used.

The purest kinds of potter's clay are called *kaolin*, and are believed to have been formed by decomposition of rocks containing large proportions of felspar, a slightly variable compound substance, which, in general, may be said to be a combination of neutral silicate of alumina and the silicates of potash, soda, lime, or magnesia, together or singly. Certain kinds of granitic rocks, especially the whiter varieties, by their atmospheric decomposition, yield fine kaolin. Great experience is required in selecting and using the materials, because in nature the plastic materials are very irregularly mixed with other substances, which have a more or less deteriorating effect. Most of the best-known clays contain a certain portion of free silica in addition to that in combination as natural silicate, which requires to be removed for very fine wares by boiling in caustic potash; otherwise, it proves injurious. The finest china-clay of Great Britain is obtained from Cornwall, where the decomposed granite is washed by streams of water, which carry it away into ponds called *catch-pools*. The discovery of this source of china-clay was made by Cookworthy about the middle of the 18th c., and alone afforded means for improving British pottery, which were most admirably turned to account by Josiah Wedgwood, and, after him, by Herbert Minton, Copeland, and others. Previous to this, though, as before noticed, fine P. was made in Britain in two or three places, yet the general character of British P., which was manufactured chiefly in the neighborhood of Burslem, Staffordshire, was miserable both in material and in design. The clay was inferior in color, prepared with very little care, and covered with a coarse white or yellow lead glaze; but the discovery of the Cornish clay, by affording a material of excellent quality, stimulated manufacturers to improve the general style of manufacture. Scarcely second in importance to this discovery were Wedgwood's good taste and untiring zeal in working out that revolution in the art of the British potter that has led to its present enormous development. In 1730, when Wedgwood was born at Burslem, Staffordshire, that place supplied the greater part of the common household P. of Great Britain; but so small was the trade, that the place was little more than a village encumbered with heaps of broken crockery, and its environs disfigured with clay-pits and piles of refuse; now it is the centre of a populous district called 'The Potteries,' comprising about 48 sq. m. In this limited space there are now nearly 280 kilns, employing more than 100,000 operatives.

The method pursued in making P. and porcelain is the same in principle everywhere; we give therefore the general outline of the process, without entering into the minute differences which distinguish the variations produced by different manufacturers in this and other countries. P. and porcelain differ chiefly in the peculiar translucency of porcelain, due to the superior quality of its materials. For P., inferior materials are used, and there is considerable admixture of calcined flint, bone-ashes, or native phosphate of lime, with the clay. The use of the calcined flint was said to have been adopted first by a Burslem potter named Astbury, who, travelling to London on horseback, 1720, had occasion, in passing through Dunstable, to seek the assistance of an hostler, in consequence of some disease in his horse's eyes. He noticed that the man took a piece of flint, burned it, and then reduced it to a fine powder, which he blew into the horse's eyes. Astbury, noticing the beautiful whiteness

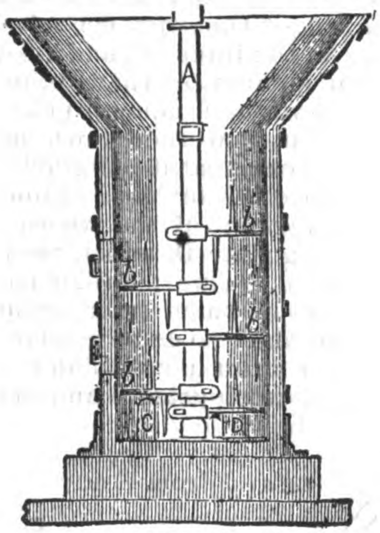


Fig. 14.

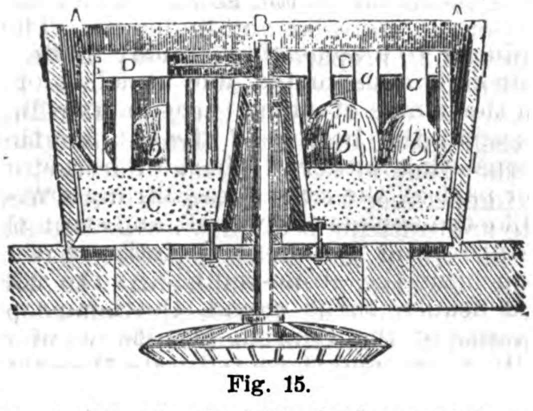


Fig. 15.

of the powder, conceived the idea of using it in P., and did so with great success.

The ingredients, such as the clay and calcined flints, are ground by separate means; the former in the pug-mill, represented in fig. 14. This is an upright, iron-bound, wooden cylinder, with an axis A turned by machinery: projecting from A are seven arms, *b*, each of which has three knives fixed in it, with the points outward, and so arranged that they spread over the largest amount of space in the interior; and altogether they are placed in a spiral manner, so that, when in motion, the clay, which is thrown in lumps into the hopper-shaped upper part of the vat, is worked down, and is so cut and kneaded by the knives, that it is forced out at an opening at C, in the state of soft pap. This is aided by the knives on the lower part of the lowest arm being connected together by a plate D, which prevents all settlement at the bottom. This pap-like clay passes into a large wooden tank, in which it is agitated with water until quite incorporated, so as to resemble milk in color and consistency. In another mill (fig. 15), of different construction, the Cornish granite and calcined flints are being reduced to a somewhat similar state. This mill is very strongly constructed, and consists of a tub-like vat A, in the centre of which turns an axle B, moved by machinery; in the bottom of the vat is a thick stone-bed C, consisting either of chert or hornstone. From the upper part of the axis, three strong arms, D, D, D, project like the spokes of a wheel; and strongly attached to these are stout beams, *a*, pointing downward, and nearly touching the stone-bed C. As the axis, with its arms and beams, turns round, the beams push some large masses of the Cornish granite or of chertstone round with them, and these triturate the calcined flints and other hard materials, and stir up the water with which the vat is kept constantly supplied, while it overflows in a milky state, charged with the finely divided materials, into a cistern, where it is kept stirred until it is sufficiently supplied with the solid materials, and the thickened milky liquid is then drawn off, in proper proportions, into a vat to which the prepared clay is

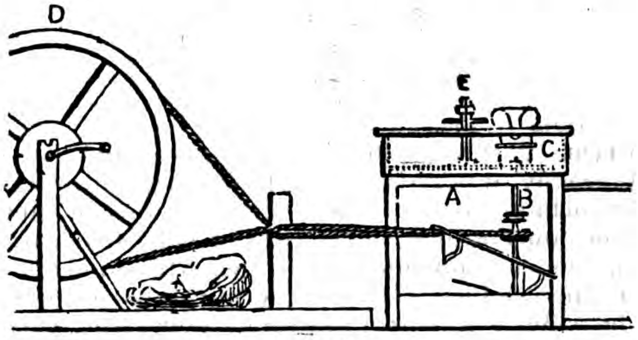


Fig. 16.

also passed. The mixture of the two is then allowed to subside until the water is nearly clear, when it is drawn off; and the sediment is deprived of its surplus moisture, either by evaporation, or, in the best works, by a pneumatic exhausting apparatus, which does it very quickly. The composition is then a fine plastic material of the consistency of tough dough, and is ready for the potter's use. In preparing the finer materials for porcelain, many other operations are required, all, however, having the same object—viz., the extremely minute division of the substances used.

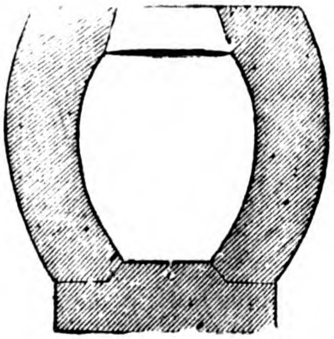


Fig. 17.

The prepared clay is taken to the *throwing-machine*, or *potter's lathe*, represented in fig. 16. This consists of a fixed table A, through which passes the axle B, rising a little above its surface, and having on its upper end a disk C, which revolves with it. The axle is put into rapid motion by turning the fly-wheel D, either by hand or machinery; and this causes a rapid revolution of the disk C, upon which is placed the soft mass of clay to be molded. At E is seen an upright, with a small sliding-bar regulated by a screw; this is the guide for the potter to regulate the height of the vessel that he is making. When the lump of clay is revolving, the potter, with his hands or with proper tools, fashions it into any shape he pleases; his management of this requires considerable skill, as nearly every article requires a different configuration. But some articles are formed in molds made of plaster of Paris. This answers well for fine porcelain intended to be very thin, because the plaster-mold absorbs much of the moisture in the paste, and thus partially dries it, so that it admits of handling,

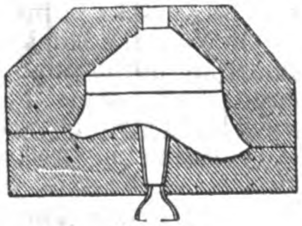


Fig. 18.

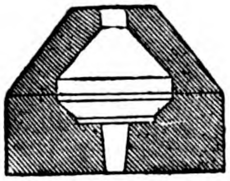


Fig. 19.

which in a softer state would be very difficult. The paste is used so liquid that it can be poured into the molds. It is usual, in casting, to have a mold for each part, as seen in figs. 17, 18, 19, which represent the body, neck and lip, and foot of the cream-ewer, fig. 20. For nearly flat articles, such as dinner-plates, a plan is adopted which combines both processes: a mold, usually of plaster, fig. 21, *a*, is placed on the disk of the throwing-wheel, *b*, and a thin layer of the paste is pressed on to it, so as completely to take its form; then to the guide-post, *c*, is attached an arm, *d*, with a small brass plate, *e*, on its lower side. This plate is cut to the outline of half the plate or dish; as it revolves, this pares down and shapes the clay to its own outline, and to the thickness to which it is set, there being an arrangement on the arm of the guide-post by which this can be effected. Sometimes, as in the case of deep vessels, molds are used for the exterior, and the interior is formed by the hand. This process (fig. 22) insures certainty of size and shape, important in making large numbers of similar articles, as teacups, etc. The mold is lined with a thin cake of clay, and when placed on

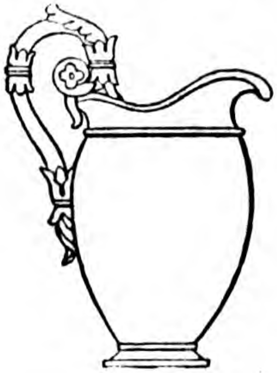


Fig. 20.

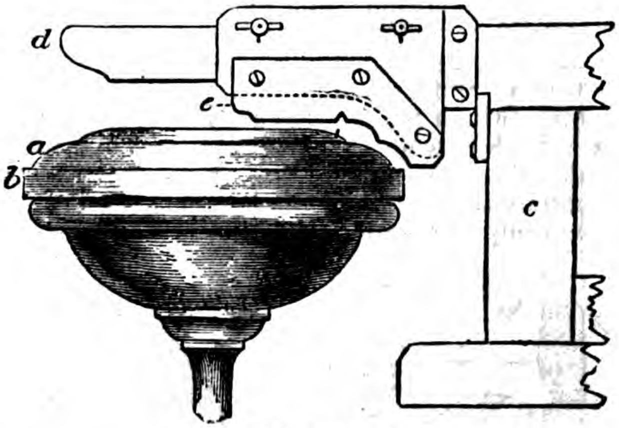


Fig. 21.

the revolving disk, it is fashioned inside by hand, and finished off with a wet sponge. Sometimes metal or horn tools are used for producing moldings and other raised ornaments, or for grooves, when the turning or throwing wheel is used. If the articles made require handles or such accessory parts, they are always molded, unless of very simple forms, and are attached while they and the body are still soft enough. They are joined by a thin fluid paste called a *slip*, and the junction is smoothed over with the wet sponge, which is one of the most useful of the potter's tools. Being formed, the articles, of whatever kind, are now taken to the drying-stove, where they are placed on shelves, and remain there some time, exposed to a heat of about 85° Fahr. When quite dry, they are next taken to a workshop near the kiln, and they are here carefully packed in coarse earthenware vessels, called *seggars* (fig. 23), which are so made that they can be piled upon

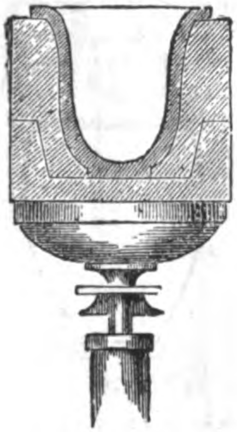


Fig. 22.

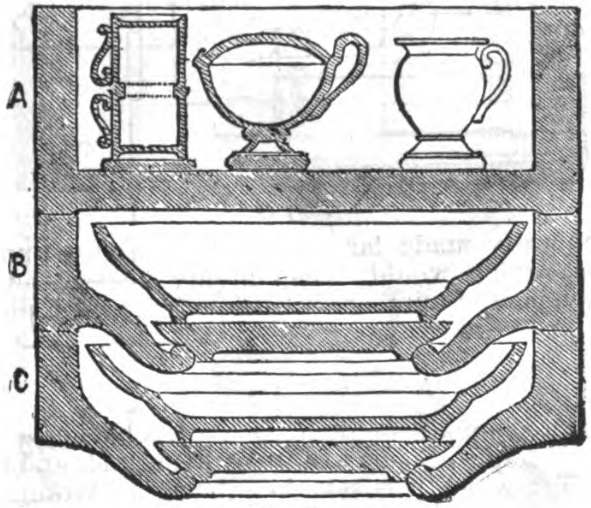


Fig. 23.

one another to a great height in the kiln, as in fig. 24, in which some of the seggars are shown in section, to make the arrangement more intelligible. As the seggars are generally made large enough to hold a number of articles, which would, when highly heated, adhere if they touched, a number of curiously shaped pieces of burned clay are used for placing between them, to make them rest on points; these are called *watches*, *cockspurs*, *triangles*, *stilts*, etc., fig. 25. In the seggar, filled with

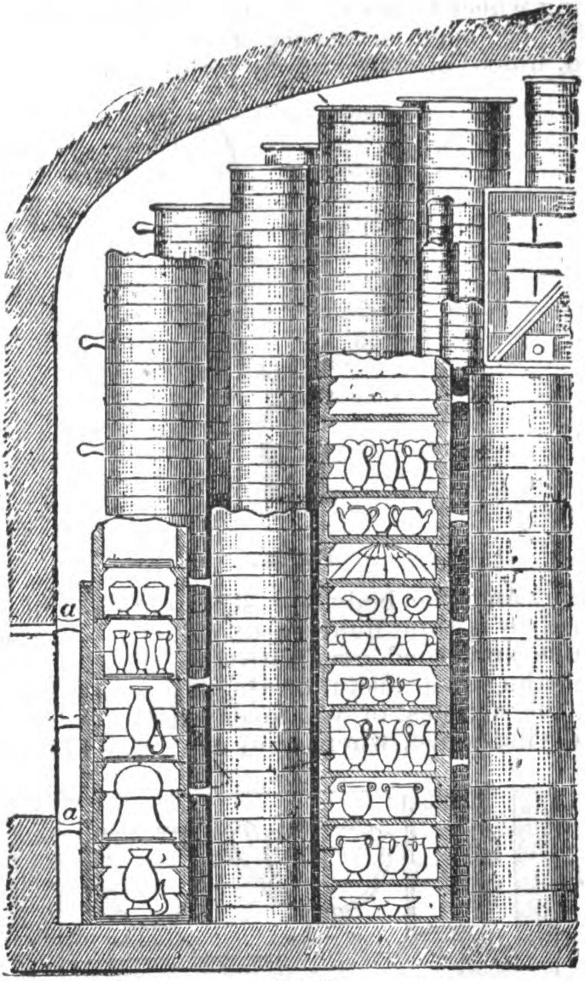


Fig. 24.

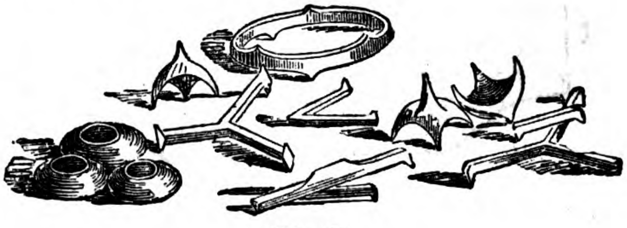


Fig. 25.

plates (fig. 26), the plates are seen each resting on *cock-spurs*, which prevent them touching. Another object is gained by this, in burning flat articles such as plates: these, if placed upon one another, would not be fired equally; but when they are held apart, the heat affects all parts alike. The seggars are so piled in the kiln that the centre is hollow, and there are free spaces between them through which the fire can ascend; props, *a*, *a*, *a*, fig. 24, being so placed as to keep them from immediate contact with the sides all round. Thus, each seggar forms a small oven, in which one or more pieces of pottery or porcelain are baked; and the seggars prevent any unequal heating of the pieces, and also protect them from smoke. A kiln has generally eight furnaces, and it is usual to raise six piles of seggars between every two furnaces, or rather between their flues, which rise to a considerable height in the kilns. Each pile of seggars is technically called a *bung*, so that there are generally 48 or 50 bungs to the charge of a kiln. When all this is arranged, the furnaces are lighted, and great care is taken to have the best coal, as it enables the manufacturer to make more certain calculation as to its effects, and is less liable to smoke and sulphureous vapors, which might injuriously affect the contents of the kiln. The baking or firing requires great care and attention, and there are many nice regulations connected with it to guide the workman. It usually lasts 40 to 42 hours. The fire is then allowed to go out, and the kiln to cool very gradually, after which it is opened, and the seggars removed, to be unpacked in a separate workshop. The articles are now in the state called biscuit-ware, and require both the glaze and any patterns that they may be intended to bear. Common P. is often figured by printing the design in enamel colors on paper, and, while the printing is still wet, applying it to the biscuit-ware; the ware absorbs the enamel ink, and the paper is removed by water, leaving the pattern on the ware. It is then fired in seggars, or a muffle, to fix the color; and is then dipped into composition called *glaze*, of which three kinds are used in the Staffordshire potteries. The first, for common pipe-clay ware, is composed of Cornish granite, 16 parts; flint, 36 parts; white lead, 53 parts; and cullet, or broken flint-glass, 4 parts. These materials are triturated with water, with the same care and by similar means to those employed in forming paste, and are reduced with water to the same

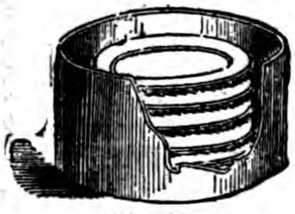


Fig. 26.

milk-like liquidity. Each workman has a tub of the glaze before him; and as the articles of biscuit-ware, either with or without decorations, are brought to him, he dips them in the glaze, to insure a uniform coating over them; and by nice management, he prevents any large drops or accumulations on one part more than another. The porous biscuit-ware rapidly absorbs the moisture, and dries up the thin film of glaze on the surface of the articles, which are again placed in seggars, and carried to the glaze-kiln, where they undergo another firing, which melts the glaze, and converts it into a perfectly transparent glass, like water, all over the surface, and renders any pattern previously printed upon it very plain. The temperature in the glaze or enamel kiln is increased only very gradually, and is kept up about 14 hours, after which it is allowed to cool slowly, and the articles are taken out completed. So far, this description has applied to the manufacture of P. and porcelain on a large scale, for general purposes; but when it is applied to more costly and artistic works, very special arrangements are required; and in the case of remarkably fine pieces, instead of the huge kilns, which hold frequently many thousand pieces, muffle furnaces (fig. 27) are used for the biscuit, the glaze, and the colored and gilded decorations, which, in porcelain, are applied on the glaze, and not on the biscuit.

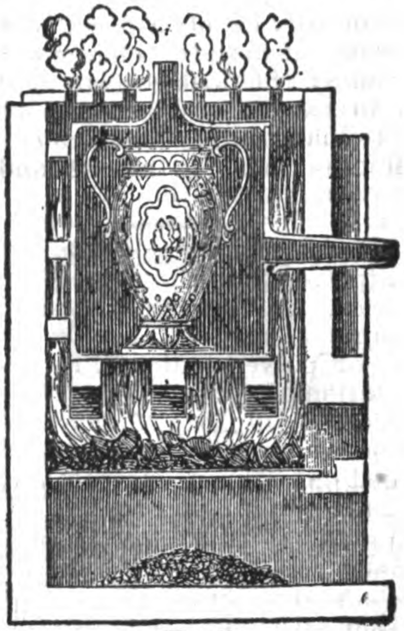


Fig. 27.

The decoration of porcelain has long held high rank as a fine art; and the exquisite skill shown in some of the finest works has fairly entitled it to that rank. The colors employed all are colored glasses ground to impalpable powders, and mixed with borax or some other fluxing material; for use, they are generally made liquid with oil of spike, and they are laid on with hair-pencils, in the same way as oil-colors. The whole process is exactly the same as in painting or staining glass; the glaze on the biscuit-porcelain being true glass, and the enamel colors being exactly the same as those used by the glass-decorator. The colors may be made by mixing the materials of which glass is made with the coloring material and the flux, or simply with the already colored glass and the flux. When the former plan is employed, the following are the coloring materials employed: oxide of chromium for green; oxide of iron for red, brown, violet, gray, and yellow; oxide of uranium for orange, yellow, black; oxide of manganese for violet, brown, black, and purple; oxide of cobalt for blue, gray, and black; oxide of antimony for yellow; oxide of titanium for yellow; oxide of copper for green; suboxide of copper for red; sesquioxide of iridium for fine black; protochromate of iron for brown; chromate of lead for yellow; chromate of barytes for yellow; chloride of silver for deepening reds and purples; purple of cassius for ruby and purple. Several of these colors are much increased in brilliancy by addition of oxide of zinc, which of itself gives no color; and the transparent ones are rendered opaque by addition of oxide of tin.

Other fluxes besides borax, or borate of soda, are used—e.g., sand, felspar, boracic acid, minium or litharge, salt, saltpetre, potash, and soda. Nothing enriches the appearance of porcelain more than good gilding: for this purpose, gold-leaf is rubbed down with oil of turpentine; or pulverulent gold is produced by precipitating a solution of gold in aqua regia, by the addition of a solution of sulphate of iron. The gold is precipitated as a brown powder, which is washed and dried, and then worked up with one-sixteenth of its weight of oxide of bismuth and oil of turpentine. It is painted on, then fired, and afterward burnished. Peculiar and beautiful metallic lustres are produced on P. by precipitated platinum and other means; but it is not within the scope of this article to enter into all the details by which the almost numberless variations are produced in manufacture and decoration of this material. The literature relating to its history is rich in treatises for guidance in the art.

The following are the chief varieties of ceramic materials, and their usual composition: 1. *Porcelain.*—At Sèvres, kaolin, 48 parts; sand (pure white), 48 parts; chalk, 4 parts. At Dresden, kaolin, 62 parts; felspar, 26 parts; broken biscuit-porcelain, 2 parts. At Berlin, kaolin, 76 parts; felspar, 24 parts. In England, three mixtures are used—For common china, ground flints, 75 parts; calcined bones, 180 parts; china-clay, 40 parts; clay, 70 parts. For fine china, ground flints, 66 parts; calcined bones, 100 parts; china-clay, 96 parts; Cornish granite, 80 parts. Fine, for modelling figures, etc., Lynn sand, 150 parts; calcined bones, 300 parts; china-clay, 100 parts; potash, 107 parts. The glazes require to be varied for nearly all, so that their fusibility may be greater or less, according to the more or less fusible character of the biscuit ingredients. 2. *Parian.*—The composition for this is the same as for the fine English china, but it is used in liquid state, so as to be poured into the plaster-of-Paris molds: it requires very great care in the firing. 3. *Earthenware* (Fr. *Faïence*, from Fayenza, the name of a place in Italy where it was made; Dutch, *Delft*, from its having been made chiefly at Delft, in Holland).—Made of various kinds of clay, varying in color from yellow to white, according to the quality required; and more or less of powdered calcined flints are mixed with it, to give it body and hardness: sometimes, as in porous vessels, only clay is used. 4. *Stoneware*, such as is used for jars, bottles, drain-pipes, etc., is made of several kinds of plastic clay, mixed with felspar

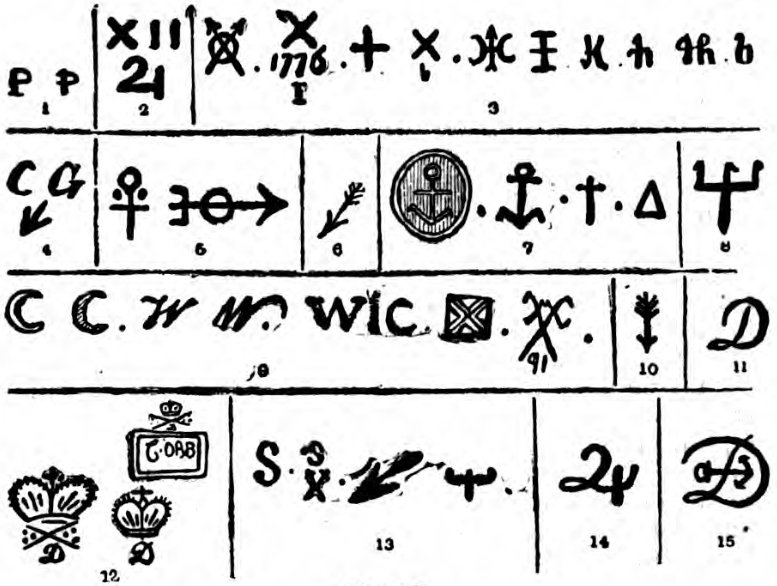


Fig. 28.

1, Pennington, Liverpool, 1760-1780; 2, Plymouth, about 1760; 3, Richard Champion, Bristol, 1772-1790; 4, Charles Green, Leeds, 1790; 5, Bow, 1730-1790; 6, Absolon, Yarmouth, about 1790; 7, Chelsea, 1730-1784; 8, Swansea, Wales, 1790; 9, Worcester, 1760-1780; 10, Yarmouth, about 1790; 11, Derby, 1751-1769; 12, Crown, Derby, 1780-1830; 13, Shropshire, 1772-1799; 14, Cookworthy, Plymouth, 1760; 15, Derby—Chelsea, 1770.

and sand, and occasionally a little lime; but the materials vary much in different localities.

In Great Britain, the potteries not only supply the home demand, but also export to a greater extent than any others in Europe; and so rapid and extensive have been the improvements effected in the last ten years by British potters, that, both as a manufacturing and as an artistic country, Great Britain now stands foremost. In 1880 the exports of earthen and china ware, parian and porcelain (except red pottery and brown stoneware), amounted in value to £1,978,445. The largest quantities were sent to India, N. America, and Australia.

POTTERY.

Most of the renowned manufacturers of pottery and porcelain have employed a special mark to distinguish their works, and these are now of considerable importance for ascertaining the origin of choice specimens. Above are shown some of the more important marks and monograms, so used by the earlier English makers, when their names in full were not imprinted, as was often the case.

The P. industry in the United States was established 1765 in S. C., where, according to Wedgwood himself, there was for it an abundance of every material, equal, if not superior, to that found in Great Britain. Between this first attempt to manufacture domestic P. and the first commercial success of the industry 1863, efforts were made to manufacture white ware in Philadelphia, Bennington, Vt., Jersey City, Greenpoint, N. Y., E. Liverpool, O., Trenton, N. J., and other places; but the results were not encouraging. About 1852 white ware began to be made successfully, as far as the actual manufacture was concerned, in Jersey City, Trenton, and E. Liverpool; but it was mainly from foreign material and was not successful commercially. In 1882 the white-ware branch alone of the industry had $5,076,000 capital, 7,000 hands, used $2,028,950 in material, paid $2,387,000 wages, and yielded $5,299,140 products. There were 55 white-ware potteries, with 244 kilns in operation, of which N. J. had 23 (118 kilns), O. 19 (80), N. Y. 3 (16), Md. 3 (10), Penn. 2 (7), Ind. 1 (2), W. Va. 1 (4), Mass. 1 (3), La. 1 (2), and Mo. 1 (2). The consumption (sales) of white and decorated wares in the United States was about $12,000,000, of which more than $5,000,000 represented domestic manufacture. In 1890 the U. S. Potters' Assoc. was composed of 78 firms actively engaged in P., and located as follows: Trenton, N. J., 23; E. Liverpool, O., 22; Wellsville and Cincinnati, O., Baltimore, and Wheeling, 3 each; New York and Philadelphia, 2 each; and Elizabeth, N. J., E. Morrisania, N. Y., Syracuse, Beaver Falls, Penn., Phœnixville, Penn., York, Penn., Zanesville, O., E. Boston, Peoria, Stafford, Md., New Cumberland, W. Va., Toronto, O., Tiffin, O., Brandywine Summit, Penn., Findlay, O., and Kittanning, Penn., 1 each. The following table shows the total importations from all countries, of china, stone, and earthen wares, for the fiscal year ending 1890, June 30:

COUNTRIES.	Plain.	Decorated.	All Other.	Total.
Austria-Hungary..	$ 43,024	$ 497,189	$ 3,172	$ 543,385
France	207,789	740,730	13,096	961,615
Germany...	39,365	1,075,427	51,035	1,165,827
Gt. Brit., Ireland...	911,812	2,175,529	866,663	3,954,004
Belgium............	489	4,905	16,287	21,681
Italy	635	7,873	4,659	13,167
Japan	4,167	228,696	3,977	236,840
Other countries...	7,157	78,174	49,135	137,466
Total..........	$1,214,438	$4,808,523	$1,008,024	$7,030,985

POTTINGER, *pŏt'tĭn-jėr*, Sir HENRY, G.C.B.: British milit. and civil officer: 1789–1856, Mar. 18; b. co. Down, Ireland. As cadet, he was sent to India 1804; as lieut. he defended Herat, the Afghanistan outpost and w. gate to India, against a Persian force and Russian officers. He rose to the rank of maj.gen.; was envoy and plenipotentiary to China 1841; effected the treaty of 1842; was then made grand commander of the Bath (G.C.B.); and 1843 gov. and chief commander of the island of Hong-Kong. Returning to England, he was appointed privy-counselor, with annual pension of £1,500. He was gov. of the Cape of Good Hope 1846–7, and of the presidency of Madras 1850–54; and, after two years in England, died at Malta. In all situations, some of much difficulty, he showed great ability.

POTTLE, n. *pŏt'tl* [OF. *potel*, a little pot: a dim. of *pot*]: a measure of two quarts; a small conical basket for containing small fruit.

POT'TO: see KINKAJOU.

POTTS, GEORGE, D.D.: Presbyterian preacher and polemic: 1802, Mar. 15—1864, Sep. 15; b. Philadelphia. He graduated at the Univ. of Penn. 1819, and at Princeton Seminary 1822; was pastor of a Presb. church in Natchez, Miss., 1823–35; of the Duane St. Presb. Church, New York, 1836–44; and first pastor of the University Place Presb. Church, New York, 1844–64. In consequence of a toast offered at an annual dinner of the Pilgrim Soc.—'A church without a bishop and a state without a king' (afterward versified and often sung)—a newspaper controversy arose between Dr. Potts and Bp. Wainwright of the Prot. Episc. Church, attracting much attention and republished in book form, entitled *No Church without a Bishop* (1845). Dr. P. was author of printed sermons and addresses.—His daughter, MARY ENGLES P., 1827–58, a woman of much personal beauty, translated from the Swedish of Bungener *The Preacher and the King* (1853), and *Priest and Huguenot* (1854).

POTT'S DISEASE, or **VERTEBRAL DISEASE**: affection of the spinal column accurately described first by Dr. Percival Pott (q.v.). In P. D. the vertebræ and the intervertebral cartilages become inflamed, and this condition is followed by loss, more or less complete, of power over the lower extremities. It usually occurs in scrofulous subjects, and is often attended by development of tubercle in the diseased part, and caries of the body of the vertebræ. On examining the spine, one or more of the spinous processes is seen to project beyond the rest, producing an angular curvature, or bump. Formation of pus at the seat of the trouble is frequent, but not invariable; and this pus burrows into the adjacent muscles, forming abscesses. After recovery there is always anchylosis, by reason of the coalescence of vertebræ. The usual medical treatment of P. D. consists in establishing a counteraction by blisters, setons, or the moxa: the patient is kept in the horizontal position till he recovers the use of his limbs. The diet must be nutritious; baths, rubbing, access of fresh air, and the administration of tonic agents, are highly beneficial. P. D. is manifested usually in childhood and youth.

POTTSTOWN, *pŏts'town:* borough in Pottsgrove tp., Montgomery co., Penn.; on the Schuylkill river, at the mouth of Manatawny creek, and on the Philadelphia and Reading railroad; 32 m. w.n.w. of Philadelphia, 18 m. e.s.e. of Reading. It is on a plain surrounded by a rich farming and mining region, and has blast-furnaces, iron foundries, rolling and planing mills, the works of the P. Iron Co., the repair-shops and offices of the Philadelphia and Reading railroad, carriage, soap, nail, and cigar factories, good public schools, seminary for girls, private school for boys, daily and weekly newspapers, and a fair-ground with race-track. It has a bridge across the Schuylkill, and a railroad bridge crosses Manatawny creek at this point. Pop. (1880) 5,305; (1890) 13,201.

POTTSVILLE, *pŏts'vĭl:* city, cap. of Schuylkill co., Penn.; on the Schuylkill river and canal, and the Pennsylvania, the Philadelphia and Reading, and the People's railroads; 35 m. n.w. of Reading, 69 m. n. of Harrisburg, 93 m. n.w. of Philadelphia. It is in a valley at the junction of the Schuylkill river and Norwegian creek, and at the base of Sharp Mountain. The city is the centre of the great anthracite coal region of Penn., and the mountains that nearly surround it contain valuable beds of iron ore. The chief industry is mining and shipping coal, but the city contains also several rolling-mills, blast-furnaces, iron foundries and machine-shops, lumber and sash factories, and manufactories of steel, safes, drills, brass goods, pottery-ware, furniture, stoves, flour, beer, and other articles. P. has gas and electric light plants, water-works, substantial co. and city buildings, theatre, Acad. of Music, 18 churches, high school, several graded schools, public library, 3 national banks (cap. $800,000), 1 state bank (cap. $200,000), 1 private bank, and 3 daily and 6 weekly newspapers. The city was settled 1795, incorporated 1828. Pop. (1870) 12,384; (1880) 13,253; (1890) 14,194.

POT-WALLERS, *pŏt-wŏl-lėrz*, or POT-WALLOPERS, *pŏt-wŏl'lŭp-ėrz* [from *pot*, and Old English *wall*, to boil or bubble]: popular designation of a class of electors in England, forming, before the Reform Act of 1832, the constituency of various English boroughs—e.g., Ilchester, Honiton, Tregoney, Old Sarum—whose qualification as housekeepers was held to be established by their boiling a pot within the limits of the borough over a fireplace in the open air. The act was regarded as evidence that the elector was able to provide for his own subsistence, and not necessitated to apply for parochial relief.

POTY, *po-tē′:* district town and rising seaport of Russia, in the Caucasian govt. of Kutais, at the mouth of the river Rion, on the e. shore of the Black Sea. The Rion connects the port with the interior, and since establishment of regular steam-communication the transit-trade of P. has greatly increased. It is connected by railway with Tiflis; since 1883, *viâ* Tiflis, with Baku, on the Caspian; also with Batum. Pop. (1867) 1,309; (1880) 3,112.

POUCH, n. *powch* [Icel. *poki;* Dut. *poke;* F. *poche;* Norm. F. *pouche*, a sack, a wallet—same as *poke* or *pocket*]: a small bag; a pocket; the bag or sack of an animal, as the cheek-pouch of a monkey, or the nursing-pouch of a kangaroo: in *mil.*, a strong leather case, lined with tin divisions, in which a soldier keeps his ammunition for immediate use: in *bot.*, the short pod or silicle of some Cruciferæ: V. to put in a pocket; to save. POUCH′ING, imp. POUCHED, pp. *powcht.* **POUCH-SHAPED**, in *bot.*, resembling a little bag, generally double or two-celled.

POUCHED RAT: term applied to six or more species of the genera *Geomys* and *Thomomys*, sub-family *Geomyinæ;* one, in the s. states (*G. pinetis*), known as the Georgia Hamster, or Salamander; the others, in the w. states, chiefly the species there called Gopher (*G. bursarius*), 8–12 in. long. The California Gopher (*Thomomys bulbivorus*) is somewhat smaller, the fore-legs much shorter than the posterior. Some of them commit great ravages in fields and gardens. They have four molars on each side in each jaw. The tail is short. The cheeks are furnished with pouches, to which the name refers, the openings of which are from the outside, and not from the mouth. The pouched rats burrow in the ground, and do great mischief to root-crops.

POUCHONG, n. *pô-shŏng′* [Chin.]: a kind of black tea; a superior kind of souchong.

POUDRETTE, n. *pô-drĕt′* [F. *poudrette*—from *poudre*, dust, powder]: human dung dried and reduced to powder, and mixed with charcoal, gypsum, etc., used for manure.

POUGHKEEPSIE, *po-kĭp′sĭ:* city, cap. of Dutchess co., N. Y.; on the Hudson river and on the New York Central and Hudson River and the New York and Massachusetts railroads; 70 m. s. of Albany, 75 m. n. of New York. It is laid out regularly on a plain 200 ft. above the river, and is bordered on the e. by a range of high hills. For many years prior to 1889 it was noted chiefly for the number and high character of its educational institutions, and was called ‘the city of schools;’ and in that year the completion of the great cantilever railroad-bridge across the Hudson river gave it a new and wide fame. The city is substantially built, paved, lighted, and sewered; has an excellent water-supply; is connected by a steam-ferry with Highland Station, on the West Shore railroad; and since the completion of its great bridge is on the shortest railroad route between the anthracite coal regions of Penn. and the manufactories of New England. It has an area of 2½ sq. m.; net public debt (1891, Jan. 1) $1,770,264; real property valuation $9,718,890; personal $3,813,850; and tax rate $2.40 per $100. The industries include several breweries, blast-furnace, rolling-mill, and silk, boot and shoe, clothing, carriage, and iron-work factories. There are 6 national banks (cap. $1,125,000), 1 savings bank (deposits $5,872,782, assets $6,680,265), and 1 home (Duchess co.) fire insurance company (assets $236,636, liabilities $218,630). In the school year 1887–8, P. had 6,000 children of school age, of whom 2,940 were enrolled in public day-schools and 800 in private and parochial schools. There were 12 public-school buildings, including the high school, which contained also the city library, a circulating and reference library controlled by the board of education. The public-school property, grounds, buildings, furniture, and apparatus, cost $155,627; the receipts were $45,962, balance from previous year $17,464, available for the year $63,426; and expenditures $43,779, balance $19,647. The High School had 8 teachers and 187 pupils; Lyndon Hall Institute (for girls), 11 teachers and 195 pupils; P. Milit. Acad., 6 teachers and 34 pupils; Riverview Milit. Acad., 11 teachers and 158 pupils; Quincy School (for both sexes), 3 teachers and 53 pupils; and the Eastman National Business College, 16 teachers and 885 pupils in day course and 66 in evening course. The most noted educational institution is Vassar College (q.v.). There were 21 churches: Meth. Episc. 4; Rom. Cath. 3; Prot. Episc. 3; Ref. (one dating from 1716) 2; and Bapt., Presb., Congl., Evang. Lutheran, African Meth. Zion, Univ., Jewish, Orthodox Friends, and Hicksite Friends 1 each. The notable buildings are: U. S. Post-office, Vassar College, Vassar Hospital, Vassar Home for Aged Men, Vassar Brothers' Institute, Y. M. C. A., Y. W. C. A., St. Barnabas' Hospital, Opera-house, Courthouse, and (2 m. n.) the Hudson River State Hospital for the Insane, completed 1871, cost $750,000. There are 4 daily, 1 semi-weekly, 3 weekly, and 3 monthly publications. Work on the great railroad-bridge was begun 1873, interrupted till 1886, and completed 1889. The structure is 3,094 ft. long from anchorage to anchorage, with viaduct approaches of 3,000 ft. on the e. side and about 1,000 ft. on the w. side, making total length about 7,100 ft. There are 4 piers in the channel and one on each shore, which support steel towers 100 ft. high; 2 rectangular steel truss spans each 525 ft. long and 80 ft. high; and 3 cantilever spans, with arms 160 ft. long each and connecting trusses 212 ft.—Pop.(1870) 20,080; (1880) 20,207; (1890) 22,836.

POULE: see Pool 2.

POULPE, *pôlp* (*Octopus*): genus of *Cephalopoda* (q.v.), of order *Dibranchiata;* having eight *feet* or *arms*, nearly equal, united at the base by a membrane, and very long in proportion to the body. There is no shell, but it is represented by two small grains of horny substance imbedded in the back, one on each side. The arms are used for swimming in water, creeping on land, and seizing prey. Poulpes swim by contractions of the muscular web of the body, which extends upon the arms. They creep on shore in a spider-like manner, with sprawling arms. Like other cephalopods, when alarmed or annoyed, they discharge an inky fluid. Several common species on the coast of the n. Atlantic states, used much by fishermen for bait, are known as Squids, and are of the genus *Loligo*. The great cuttlefish (*Architeuthis*) of the coast further north, are nearly related to these. One species measured nearly 50 ft., and goes far to justify the stories of small vessels swamped by the embrace of cuttle-fishes. One species (*O. vulgaris*) is common on s. shores of Europe, and elsewhere in the Mediterranean. It is the *Polypus* of the ancients. Its arms are six times as long as its body, and each furnished with 120 pairs of suckers. (See CEPHALOPODA.) It was no doubt a P. which Mr. Beale encountered on the shore of the Bonin Islands, which he attempted to intercept in its retreat toward the sea, and which turned and fastened upon him, laying hold of him with its arms, and trying to bite him with its parrot-like beak.—See *The Octopus*, by Henry Lee (1875).

POULSON, *powl'son*, ZACHARIAH: publisher: 1761, Sep. 5—1844, July 31; b. Philadelphia; of Danish descent. He learned printing in the printing-office of Christopher Sower at Germantown, Penn. In 1800, Oct. 1, he began the publication of the *American Daily Advertiser*, the first daily paper published in the U. S., and was its editor and publisher 39 years, till its discontinuance 1839, Dec. 28. From 1789–1801 he published Poulson's *Town and Country Almanac*. Among other important works which he brought out, was Robert Proud's *History of Pennsylvania*. He died at Philadelphia.

POULT, n. *pōlt* [F. *poulet*, a chicken; *poule*, a hen—from mid. L. *pulla*, a hen; L. *pullus*, a young animal]: a young chicken, usually of a turkey; a pullet. **POULTRY,** n. *pōl'trĭ*, domestic birds, generally reared for the table, or for their eggs (see below). **POUL'TERER,** n. *-tėr-ėr*, one who deals in poultry or game. **POULTRY-YARD,** a yard where poultry are confined, bred, or fattened.

POULTER, n. *pōl'tėr* [see POULT]: OE. for POULTERER.

POULTICE, n. *pōl'tĭs* [L. *puls* or *pultem*, a thick pap or pottage made of meal: Gr. *poltos*, porridge]: a soft preparation of meal, bread, or herbs, etc., applied to sores or tumors (see CATAPLASM): V. to apply a poultice. **POUL'TICING,** imp. **POUL'TICED,** pp. *-tĭst.*

POULTRY, *pōl'trĭ:* collective name for useful domesticated birds; sometimes limited to the domesticated gallinaceous, but usually including all the birds reared for economical purposes. These belong exclusively to two orders, the *Gallinaceous* and *Palmiped;* the common fowl, pea-fowl, Guinea-fowl, turkey, guan, and pigeon belonging to the former; and the different kinds of duck and goose, as well as the swan, to the latter. For different species and their varieties, see their titles. General remarks on the management of P. are here to be presented.

Though it has received considerable attention in n. France, and some other portions of Europe, the rearing of P. has been regarded usually as a minor interest in rural economy, and in this country it has been greatly neglected. But of late it has been demonstrated that P. can easily be made a source of profit either when managed as a separate industry or in connection with general farming.

Among essentials to success are abundant room, a liberal quantity and considerable variety of food, pure water, ventilation, protection from extremes of temperature, and scrupulous cleanliness. A special building is required, and if more than one class of P. is kept, a separate portion should be assigned to each. If large numbers of fowls are kept, isolated houses should be provided. For every 50 hens there should be a building 15 x 25 ft. and a yard containing an acre of land. This will provide ample space for roosting and laying and hatching rooms, and for a shed 10 x 15 ft., under one roof. The yard can be cheaply fenced with wire netting. The laying and hatching rooms should be separated by partitions from each other and from the roosting place. The manner of feeding goes far toward determining the returns which P. will make. Too large a proportion of concentrated food is unfavorable to egg-production, and tends to cause various forms of disease. Wheat is the most valuable grain for P., but there is no one kind of food which can be safely used to exclusion of others. Indian corn is used more extensively in this country than any other kind of grain, but is far inferior to wheat, barley, or oats, though it may well be mixed with these grains. Meat scraps, vegetables, skimmed milk; and, in winter, steamed clover, should be regularly supplied in connection with grain. Crushed bones, or broken oyster shells, also should be furnished to supply the lime required for the shells of eggs. Grass, or other green food, is needed in summer by fowls which do not have a suitable range. Web-footed birds can be kept most profitably near ponds or streams, but there are breeds of some varieties which do well if water is supplied in tanks.

Dry sand, road dust, or fine loam, with which to mix the droppings, should be spread over the P. house floor to a depth of three or four in.; and in the shed there should be plenty of fine, loose soil in which the fowls can take a dust bath as often as desired. Lice and red spiders often cause heavy losses of chickens and kill many grown fowls. These pests will be partially prevented by the dust baths, but it is necessary also frequently to sprinkle the roosts, nest-boxes, coops, and interior of the buildings with kerosene, carbolic acid, or spirits of turpentine. Powdered sulphur should be rubbed among the feathers of the fowls, and Persian insect powder be dusted over the chickens. It is also well to sprinkle air-slacked lime over the floor of the P. house, and if the building can be tightly closed an occasional fumigation with burning sulphur will be beneficial. The principal diseases of P. are gapes, roup, and chicken cholera. The gapes is due to the presence of worms in the windpipe (see GAPES). Roup is a form of catarrh which may result in consumption or in other forms of disease. It is caused by exposure, want of ventilation of the P. house, or other unsanitary conditions. If the affected fowl is of special value it may be treated with tonics, but otherwise it is better to kill it at once. The same rule applies to cases of chicken cholera. With either disease immediate isolation of the affected fowl and thorough disinfection of the premises is imperative. If vigorous stock is obtained, too close in-breeding avoided, and proper care exercised as to feeding, cleanliness, etc., there will be but slight losses from disease. If the stock is to remain pure, the different breeds must be kept entirely apart, but birds from other flocks should be occasionally introduced to maintain constitutional vigor.

Accurate statistics regarding the magnitude of the P. interest cannot be obtained; but a careful estimate for 1888 placed the value of the products in this country at not less than $200,000,000, and the value of eggs imported during the year at nearly $2,500,000.

POUNCE, n. *powns* [F. *ponce*, pumice-stone; *poncer*, to smooth, to rub with pumice-stone—from It. *pomice*—from L. *pūmĭcem*, pumice-stone: Sp. *pomez*, a pumice-stone]: powdered rosin, or some gum resin—e.g., mastic, sandarac, copal, reduced to a powder, also the powder of cuttle-fish bones—formerly scattered over a fresh writing to dry the ink or to prevent it from spreading: that which is written over an erasure: powder used as a medicine or cosmetic, and for other purposes: V. to rub with pounce. POUNC′ING, imp.: ADJ. pricking out a pattern on paper, over which pounce may be rubbed when laid on cloth, in order to reproduce the pattern on the cloth. POUNCED, pp. *pownst:* ADJ. ornamented with a continuous series of dots over the entire surface; sprinkled with pounce.

POUNCE, n. *powns* [Sp. *puncha*, a thorn, a prick; *punchar*, to sting or prick: L. *punctus*, punctured—from *pungĕrĕ*, to prick]: the talon or claw of a bird of prey: V. to dash down upon like a bird of prey with its talons or claws. POUNC′ING, imp. POUNCED, pp. *pownst:* ADJ. furnished with claws.

POUNCE, n. *powns* [from PUNCH 4, which see· or perhaps the same as POUNCE 1]: cloth worked in eyelet-holes: V. to perforate; to work in eyelet-holes. POUNC′ING, imp. POUNCED, pp. *pownst.*

POUNCET-BOX, n. *powns′ĕt-* [F. *poncette*—from *poncer*, to cover with pounce, to rub with pumice-stone]: a scent-box with a perforated inner lid.

POUND, n. *pownd* [Dut. *pond;* Ger. *pfund;* L. *pondo*, a pound—from *pendĕrĕ*, to weigh]: standard weight in Eng. of 16 oz. or 7,000 gr. avoirdupois; 12 oz. or 5,760 gr. troy for apothecaries and jewellers (see below). In Great Britain, a unit of money, of 20*s.* or 240*d.*, so called from formerly weighing a pound (see below). POUND′AGE, n. *-āj*, a deduction or charge made for each pound in money or weight. POUND′ER, n. *-ėr*, that which weighs two or more pounds, as a cannon-ball; a large heavy pear. POUND-CAKE, a rich sweet cake, so called from the ingredients having originally been mixed of a pound each in weight. POUND-FOOLISH, neglecting the care of large sums in the anxiety to save small ones. POUND SCOTS, an anc. coin or unit of money of Scotland, equal in value to 20*d.* sterling. POUND OF FLESH, the uttermost farthing; the most rigorous exaction in terms of agreement—used in the ill sense of justice without mercy, in allusion to Shakespeare's Shylock.

POUND, v. *pownd* [AS. *punian*, to beat, to bray]: to stamp or bruise in a mortar; to pulverize by beating with a pestle; to strike or beat with something heavy. POUND′ING, imp. POUND′ED, pp.: ADJ. pulverized or reduced by beating; bruised by beating. POUND′ER, n. *-ėr*, one who or that which pounds; a pestle or beater.

POUND, n. *pownd* [AS. *pund*, an inclosure: Icel. *pynda*, to shut in: OHG. *piunta*]: a public inclosure for the safe custody of cattle found straying or doing damage: V. to shut in or confine in a public pound. POUND′ING, imp. POUND′ED, pp.: ADJ. confined in a pound. POUND′AGE, n. *-āj*, confinement of cattle in a pound; the charge or toll for it. POUND-BREACH [AS. *pund-breche*]: in *law*, the crime of the breaking of a public pound to release beasts confined in it.—*Pound*, in English and American law, as an inclosure for stray cattle, has long been known. Whenever a stranger's or neighbor's cattle trespass on another's lands, the latter can seize them, and take them to the P., or impound them, as it is called, *damage feasant*, and can keep them there till the expenses are repaid. If there is no public P., and the injured party impounds stray cattle on his own premises, he must supply the cattle with food, otherwise he incurs a penalty; and if impounded cattle are not sufficiently fed, a stranger who feeds them may not only trespass on lands to do so, but can recover the costs from the owner of the beasts. P.-breach is an indictable offense.

POUND: unit of weight in w. and central Europe, and in the United States and Brit. America, differing, however, in value in different countries. The symbol for it (*lb.*—plu. *lbs.* or *llb.*) from Lat. *libra*, is equally general. The old English P., said to have been the standard of weight from the time of William the Conqueror till that of Henry VII., was derived from the weight of 7,680 grains of wheat, all taken from the middle of the ear, and well dried. After this time, the *troy* P., heavier by $\frac{1}{16}$ than the old English pound, became the standard, but it was divided into only 5,760 grains. Henry VIII. introduced the *avoirdupois* P. for weighing butcher meat in the market, and it gradually came to be used for all coarse goods in frequent demand; it contained 7,000 troy grains. The troy and avoirdupois pounds, both legal measures, continued in regular use—the former being gradually appropriated by jewellers and apothecaries; and, to prevent variation, a brass weight of one P. troy was constructed 1758, and placed in charge of the clerk of the house of commons. This weight, 1824, was declared by act of parliament 'the original and genuine standard measure of weight,' and that from which the value of the ounce, grain, pound avoirdupois, etc., were to be deduced. When this, with the standards of measure, was destroyed 1834, a commission was appointed to consider the best means of replacing them. After long deliberation, hearing evidence, and sifting suggestions, it was agreed that the standard of weight should be a piece of platinum, weighing 7,000 grains (an avoirdupois P.), but that this piece should not be defined with reference to any natural standard. The troy P. thus ceased to be the standard, but its use was allowed to jewellers and (differently divided and subdivided) to apothecaries. In the British pharmacopœia 1864, the troy ounce of 480 grains was given up, and the P. avoirdupois of 7,000 grains, and the ounce avoirdupois of 437½ grains, were adopted. The Weights and Measures Consolidation Act of 1878 adhered to the platinum standard pound.

The *pound-weight of silver*, a common money standard among the ancient Romans, was introduced by them into the countries that they conquered; thus the term 'pound' became a designation of a certain amount of coined money. Thus the English P. is considered as something (coin or otherwise) equivalent to 20 shillings, but originally it denoted the P. of silver which was coined into 20 shillings. From Edward II.'s time, the coins were more and more diminished in size, that monarch coining 25 shillings from a P. of silver; while from the same weight of bullion his various successors coined 30, 45, 48, 96, 144, 288, in the time of Elizabeth 60, and (during the reigns of her successors) 62 shillings. George I. coined 66 shillings to the P. of silver, and this rate still continues, the term 'pound' being severed from its original meaning, and signifying 20 shillings of the present British coinage—equivalent (1891, Feb.) to $4.86·6½ of United States currency; the shilling being equivalent to 24⅛ cents nearly.

POUPÉE, n. *pô'pā* [F. *poupée*, a doll]: a puppet; a milliner's block. Poupeton, n. *pô'pĕ-tŏn*, a puppet; a baby; hashed meat.

POUR, v. *pōr* [W. *bwrw*, to cast, throw, or rain: Gael. *bior*, water, a flowing water]: to cause some liquid to flow out of a bottle or vessel; to discharge in a continuous stream; to flow; to send forth; to utter; to move or rush tumultuously, as a stream or a crowd. Pour'ing, imp. Poured, pp. *pōrd.* Pour'er, n. *-ėr*, one who or that which pours.

POURPARLER, n. *pôr-pâr'lā* [F. *pour*, for; *parler*, to speak]: a request for a consultation. Pourparlers, n. plu. *pôr-pâr'lāz*, consultations preliminary to a treaty; preliminary or by-meetings.

POURPARTY, n. *pôr-pâr'tĭ* [F. *pour*, for; *parti*, part or party]: in *law*, a division among several persons of lands before held in common.

POURPRESTURE, n. *pôr-prĕst'ūr* [OF. *pourprisure*, an inclosure]: a wrongful encroachment on lands.

POURPRITE, n. *pôr'prīt* [F. *pourpre*, purple]: in *chem.*, a dark-red coloring matter contained in the sediment of old wines.

POURSUIVANT, n. *pôr'swē-vănt* or *pėr-swē'vănt:* see Pursuivant.

POURTRAY, v. *pōr-trā'* [OF. *pourtraire*, to depict—from L. *protra'hĕrĕ*, to draw (see Portrait)]: in *OE.*, to depict; to paint; to draw.

POUSH'KIN: see Pushkin.

POUSSE, n. *pôs* [corrupted from Pulse, which see]: in *OE.*, for pease.

POUSSETTE, n. *pô-sĕt'* [F. *poussette*]: a movement in a dance: V. to move in the manner of a poussette. Pousset'ting, imp. Pousset'ted, pp.

POUSSIN, *pô-săng'*, Gaspar: landscape painter: 1613–75; b. Rome; son of a Frenchman named Dughet, adopted son of Nicolas P., who was his brother-in-law. He was the pupil of his adoptive father. P. was called by the Italians Gasparo Duche, and inscribed his etchings, eight in number, in that way. His landscapes are composed in general from studies in the Campagna of Rome and surrounding country, worked out with the feeling of a mind deeply imbued with classical associations, and tending toward melancholy reflection, by contrasting the glory of the past with the decadence of the present—ideas entirely the opposite of those of Claude, who, trusting to the never-fading beauty of nature, endeavored, from the scenery and architectural remains in Italy, to realize the classic age in all its glory. The English National Gallery possesses six specimens of P., some of them reckoned masterpieces, e.g., *Sacrifice of Isaac*, *Land Storm*, and *Italian Landscape with a View of a Town.* P. died in Rome.

POUSSIN′, Nicolas: painter of great celebrity: 1594, June—1665, Nov.; b. near Le Grand-Andely, in Normandy. He was a pupil first of Quintin Varin; but at the age of 18 went to Paris, studied under Ferdinand Elle, the Fleming, Lallemand, and others; but chiefly improved himself by drawing from casts, and drawings and prints after Raphael and Julio Romano, in the collection of M. Courtois, who accorded him access to them. After a long and hard struggle, he attained his desire—the means of visiting Rome. He was 30 years of age when he arrived there, and a considerable period elapsed before he obtained much employment. At length he received several important commissions from Cardinal Barberini, which he executed so successfully, that he afterward rapidly acquired fame and fortune. After an absence of 16 years, he returned to Paris with M. de Chantelou, and was introduced by Cardinal Richelieu to Louis XIII., who appointed him his painter in ordinary, with apartments in the Tuileries, and a salary of £120 a year. P. returned to Rome for the purpose of giving up his establishment there, and taking his wife to Paris; but meanwhile Louis XIII. died, and P. gave up all thoughts of returning to his native country, and remained through life in Rome, where he had a very successful career. His reputation rests mainly on his success in aiming at the classic style. Sir Joshua Reynolds says: 'No works of any modern have so much the air of antique painting as those of Poussin.' Many prefer his landscapes, or pictures in which landscape predominates, to his compositions in which the figures are chief. More than 200 prints have been engraved from his works. The English National Gallery has several of P.'s pictures, two of which are particularly praised, *A Bacchanalian Dance*, and *A Bacchanalian Festival.*

The best known works of P. are *The Seven Sacraments*, of which there are two series, one in Belvoir Castle, England, the other in the Bridgewater gallery, where also is his *Moses Striking the Rock*. At Leigh Court, is his *Plague of Athens*. The Louvre at Paris has many of his most noted paintings, such as *Rape of the Sabines*, *The Deluge*, *Eliezer and Rebecca*, and *The Finding of Moses*. One of his most famous altar-pieces is *Christ Healing the Blind Man at Jericho*. His earlier celebrated works were *Jerusalem Taken by Titus*, and *The Death of Germanicus*.

POUT, n. *powt* [F. *poulet*, a chicken]: a young turkey; often applied to the young of other domestic fowls, and of the grouse kind.

POUT, v. *powt* [F. *bouder*, to pout: prov. F. *pout*, also *poto*, a lip: Icel. *putt*, representing a blurt of the mouth with protruded lips]: to stick or thrust out the lips in ill-humor or in contempt: N. a fit of sullenness. POUT'ING, imp.: ADJ. projecting; prominent: N. act of one who pouts; childish sullenness. POUT'ED, pp. POUT'ER, n. *-ėr*, one who pouts; a kind of pigeon, from its inflated breast having the appearance of pouting. POUT'INGLY, ad.

POUT, n. *powt* [see POUT 2]: a sea-fish of the cod kind, so named from its power of inflating a membrane which covers the eyes and neighboring parts of the head.

POVERTY, n. *pŏv'ėr-tĭ* [F. *pauvreté*—from L. *paupertas* or *paupertātem*, poverty: F. *pauvre;* L. *pauper*, poor: It. *poverta*, poverty, want]: want of sufficient means of subsistence; penury; defect or barrenness, as of words or ideas. POVERTY-STRUCK, a. very destitute in means of subsistence.—SYN. of 'poverty': beggary; penury; indigence; necessity; need; lack; neediness; scantiness; want; meagreness; sparingness; jejuneness.

POWAN, *pow'an* (*Coregonus* [q.v.] *cepedei*): fish found in Loch Lomond, Scotland, often called *Fresh-water Herring.* It is not found in any other British lake or river, and has not been identified with any fish of the continent of Europe, though probably it exists in some Scandinavian lakes. It resembles the Pollan (q.v.) of the Irish lakes, but is readily distinguished. The P. sometimes attains the length of 16 inches. Great shoals are seen in Loch Lomond, rippling the surface, and approaching the shores in the mornings and evenings. They are never seen in the middle of the day. The P. is caught usually by nets, is highly esteemed for the table, and is in best condition in Aug. and September.

POWDER, n. *pow'dėr* [F. *poudre*, powder—from L. *pulvis* or *pul'vĕrem*, dust]: any substance made fine and dry, as rough as sand, or as fine as flour; a medicinal preparation: V. to reduce to fine or small particles; to sprinkle with powder. POW'DERING, imp. reducing to powder; salting; preserving. POW'DERED, pp. *-dėrd:* ADJ. reduced to powder; sprinkled with powder; sprinkled with salt: in *her.*, strewn with an indefinite number of small charges (called also *Semée*). POW'DERY, a. *-dėr-ĭ*, resembling powder; dusty; in *bot.*, having a surface coated with fine powder, as the bloom on plums. GUNPOWDER, a composition in the form of small grains, made of nitre, sulphur, and charcoal. HAIR-POWDER, a composition used for whitening the hair. POWDER FLASK OR HORN, a case in which gunpowder is carried. POWDER-MILL, a mill in which the ingredients of powder are ground and blended together. POWDER-MONKEY, in the navy, a boy that carries the powder to the gunners. POWDERING-TUB, a vessel in which meat is salted for keeping. POWDER-ROOM, in a *ship*, the part in which the gunpowder is kept. POWDER AND SHOT, material for charging a gun for one shot: the cost of obtaining any result.

POWDERLY, *pow′dėr-lĭ*, TERENCE VINCENT: labor reformer: b. Carbondale, Penn., 1849, Jan. 22. He received a public-school education, learned the machinists' trade, and 1869 removed to Scranton, where he worked in the railroad machine-shops. In 1870 he joined the Machinists' and Blacksmiths' National Union, of which he soon became pres.; and 1874 began his connection with the Knights of Labor (see LABOR, KNIGHTS OF), and his career as an advocate of organized labor. He was elected general master-workman of the order 1879, and despite opposition within and without the order still (1891) holds the office; and was elected mayor of Scranton 1878, 80, and 82. He gives his whole attention to the order, and has issued numerous circulars of information, advice, and counsel.

POWELL, *pow′ėl*, BADEN: clergyman of the Church of England, and savant: 1796, Aug. 22—1860, June 11; b. Stamford Hill, near London; son of a London merchant. He studied at Oriel College, Oxford; graduated M.A., with first-class mathematical honors, 1817; took holy orders 1820; and was appointed vicar of Plumstead, Kent, 1821. In 1824 he was elected a fellow of the Royal Soc.; and three years later was appointed Savilian prof. of geometry, a chair which he held till his death. P.'s aim was to bring about a larger recognition of the importance of physical and mathematical science in the university curriculum. To the scientific periodicals he contributed many valuable papers. He courteously but strenuously advocated a modification of the old views of nature which were supposed to be taught in the Scriptures, and asserted the claims of modern science as a guide in biblical interpretation. Among his works are: *Revelation and Science* (Oxford 1833); *The Connection of Natural and Divine Truth* (Lond. 1838); *Tradition Unveiled: a Candid Inquiry into the Tendency of the Doctrines Advocated in the Oxford Tracts; A General and Elementary View of the Undulatory Theory as Applied to the Dispersion of Light*, etc. (Lond. 1841); *Essays on the Spirit of the Inductive Philosophy*, etc. (Lond. 1855); *Christianity without Judaism* (1857); *The Order of Nature Considered with Reference to the Claims of Revelation* (1859); and *On the Study and Evidences of Christianity* in *Essays and Reviews* (1860).

POW′ELL, CHARLES STUART: 1749–1811, Apr. 26; b. England: actor and manager. He appeared first at Covent Garden Theatre, London, where he played for a number of years. Afterward he became manager of the Haymarket. 1792, Aug. 13, he appeared in the first dramatic performance in Boston. For a number of years he was manager of the Boston Theatre, which he opened. Subsequently he was manager of a theatre at Halifax, N. S., where he died.

POW′ELL, John Hare (original name Hare): agriculturist: 1786, Apr. 22—1856, June 14; b. Philadelphia; bro. of Dr. Robert Hare. He was adopted by his aunt, Mrs. Samuel P., and on becoming of age took her name by act of the legislature. He was educated at the College of Philadelphia and became a successful merchant; but after a visit to Europe, during a part of which time he served as sec. of the U. S. legation in London, he applied himself to agriculture and the improvement of domestic animals. He was one of the founders of the Pennsylvania Agricultural Soc., and for some time its secretary. Besides being a constant contributor to agricultural periodicals, he was author of many pamphlets and papers on agricultural subjects. He died at Newport, R. I.

POW′ELL, John Wesley, ph.d., ll.d.: geologist: b. Mt. Morris, N. Y., 1834, Mar. 24. He received a common-school education; studied at Oberlin College 1854–56; made large collections of specimens of natural history and geology; and became sec. of the Ill. State Natural History Soc. He served through the civil war, rising from the ranks to the grade of lieut.col., and losing his right arm at Shiloh. In 1865 he was appointed prof. of geology in Wesleyan Univ., Bloomington, Ill.; 1867 made his first geological exploration of Colo., and the following year explored the great cañon; 1870 was placed in charge of a topographical and geological survey of the Colorado river, authorized by congress; and 1881 succeeded Clarence King as director of the U. S. geological survey. He is a member of many scientific bodies; has prepared numerous reports, papers, and addresses; and received the degree ph.d. from Heidelberg Univ., and ll.d. from Harvard 1886. (See Marsh, Othniel Charles.)

POW′ELL, Levin Myne: 1800–1885, Jan. 15; b. Loudoun co., Va.: naval officer. He entered the U. S. navy as a midshipman 1817; was promoted lieut. 1826, commander 1843, capt. 1855; retired 1861; and promoted commodore 1862 and rear-admiral 1869. He showed much gallantry in the Seminole Indian war in Fla. 1836–7, was wounded, and received the thanks of congress for his services. 1843–49 he was on ordnance duty, and 1851–54 was attached to the Washington navy-yard as executive officer.—His father, Levin P., 1738–1810, Aug. 6, became lieut.col. in the revolutionary war, member of the Va. convention that ratified the federal constitution 1788, and federalist member of congress 1789.

POWER, n. *pow′r* [F. *pouvoir;* OF. *povoir*, and *pooir;* Sp. *poder;* It. *potere*, to be able: L. *posse*, to be able; *potestas*, power]: ability; capacity; strength; energy; faculty or energy of mind; influence; rule or authority: a sovereign; one invested with authority, as a magistrate; a state or nation (see Government: etc.): a supernatural being or agent: in *arith.* and *alg.*, the product arising from the multiplying of a quantity or number into itself one or more times—thus, the 2d power of 3 (written 3^2) is $3 \times 3 = 9$; 3^3 is $3 \times 3 \times 3 = 27$: in *law*, a reservation in a deed or agreement (see POWER, in Law): in *mech.*, the moving force of a body or machine, or that which produces it; energy; that by which work can be done (see FORCE: DYNAMICS): in *optics*, the magnifying strength (see OPTICS: MICROSCOPE: TELESCOPE): ADJ. possessing power, as a power-loom. POWERS, n. plu. *pow′rz*, those having resources, greater or less—applied to nations, as, the Great *Powers*. POWERFUL, a. *pow′r-fûl*, having great powers; mighty; intense; forcible; efficacious. POW′ERFULLY, ad. *-lĭ*. POW′ERFULNESS, n. *-nĕs*, the quality of having or exerting great power; force. POW′ERLESS, a. *-lĕs*, destitute of power; weak. POW′ERLESSLY, ad. *-lĭ*. POW′ERLESSNESS, n. *-nĕs*, the quality of being powerless. POWER OF ATTORNEY, written authority empowering another to act (see POWER, in Law). HORSE-POWER, in *mech.*, an expression to denote the power of a steam-engine—that is, to denote how many horses' work it will accomplish—one horse-power being equal to the power required to raise 33,000 lbs. avoirdupois one foot per minute. POWER-LOOM, a loom moved by the mechanical force of steam, wind, or water, as distinguished from a *hand-loom*. MECHANICAL POWERS, the five simple mechanical instruments—viz., the lever, the inclined plane, the pulley, the screw, and the wheel and axle (see MECHANICAL POWERS). STEAM-POWER, the strength or moving force of steam. WATER-POWER, the strength or moving force of water. IN POWER, in office.—SYN. of 'power': energy; force; vigor; strength; faculty; ability; reach; capability; might; capacity; motive; susceptibility; influence; sway; dominion; government; command; agent; sovereign; potentate; institution; a spirit; a divinity; army; navy; host; product; authority; multitude; mass; —of 'powerful': mighty; forcible; energetic; potent; strong; intense; efficacious; great; uncommon.

POW′ER, in Law: an authority by which a person enables another to perform an act for him. Thus an authority given to an agent to act for another is called a power of attorney; and there are numerous examples of powers contained in marriage settlements, wills, and miscellaneous deeds, which authorize one of the parties to do something in certain contingencies. Thus a power of revocation is often reserved to a party to revoke a will or deed. There is a power of appointment given to a married woman or widow to bequeath or divide certain property in certain events among her children. There are many nice and difficult rules of law applicable to matters connected with and arising out of powers. A power is created by a deed or will: and it is said to be executed when it is carried out. In Scotland, powers are generally called Faculties (q.v.).

POWERS, *pow'ėrz*, HIRAM: sculptor: 1805, July 29—1873, June 27; b. Woodstock, Vt.; son of a farmer, and the eighth of nine children. He acquired the rudiments of education at a free district school. While a boy, he went to Cincinnati, Ohio, where he became apprentice to a clockmaker, and about the same time formed the acquaintance of a German sculptor, who taught him to model in plaster. Subsequently, he was employed for several years making wax-figures and fitting them with machinery, for the Cincinnati museum, where his *Infernal Regions* horrified thousands of visitors. In 1835 he went to Washington, where he executed the busts of several distinguished persons; and, with the aid of Mr. Nicholas Longworth, 1837, went to Italy to study his art, residing in Florence till his death. In 1838 he produced his statue of *Eve*, which excited the admiration of Thorwaldsen; and 1839 the still more popular *Greek Slave*, of which six copies in marble, with cast copies innumerable, were produced. Of his *Fisher Boy*, three copies were ordered. Among his other works the chief were *Proserpine*, *Il Penseroso*, *California*, *America* (for the Crystal Palace, Sydenham); statues of Washington for the state of La., of Calhoun for S. C., and of Webster for Boston; and busts of Adams, Jackson, Marshall, Van Buren, and other distinguished Americans.

POW'ERS, HORATIO NELSON, D.D.: clergyman and author: 1826, Apr. 30—1890, Sep. 6; b. Amenia, N. Y. He graduated at Union Coll. 1850, and at the Prot. Episc. theol. seminary, New York. After officiating as asst. in the Episc. Church at Lancaster, Penn., he was rector of St. Luke's, Davenport, Io., 1857–62; St. John's, Chicago, 1868–74; Christ Church, Bridgeport, 1875–84; and Christ Church, Piermont, N. Y., 1886, having been for several years after 1864 pres. of Griswold Coll., Davenport, Io. He published *Through the Year* (1875); *Poems, Early and Late* (1876); *Ten Years of Song* (1887); and was co-author of *Homes and Haunts of the Elder Poets* (1881).

POW'ERS, THOMAS H.: 1811–78: philanthropist. He was one of the founders of the great drug establishment of Powers & Weightman of Philadelphia. With the large fortune which he acquired, he gave generously and unpretentiously to various charities. He was in full sympathy with the movement to establish the Ref. Episc. Church, and contributed liberally to build up and sustain the new organization. He died at Philadelphia.

POWHATAN, *pow-ha-tăn':* sachem: about 1550–1618, April. His true name was Wahunsonacook, but the whites called him by the name of his early home at the falls of the James river near Richmond, Va. He was chief of 30 small tribes aggregating 8,000 persons, and his principal village was in the present co. of Gloucester, Va. P. received with hospitality Capt. John Smith and 30 colonists when they visited him 1609. He was then a stalwart, gray-haired man, and had several wives, 20 sons, and

10 daughters. The guile and greed of the white men, and the suspicions of P., before long produced deep enmities: P.'s purpose of destroying the English in Va. was foiled by the action of his dau. Pocahontas, who warned the whites of their peril: see POCAHONTAS.

POWNALL, *pow'nal*, THOMAS: English statesman: 1722–1805, Feb. 25; b. Lincoln. He graduated at Cambridge 1743, and 1753 came to this country as private sec. to Sir Danvers Osborne, royal gov. of N. Y. In 1755 he was made lieut.gov. of N. J., and the following year succeeded Shirley as gov. of the colony of Mass. Bay. In 1760 he was appointed gov. of S. C., but never assumed the duties of the office, as he returned to England in 1761, where he was soon elected to parliament. In 1780, after having been three times returned to parliament, he withdrew from public life and applied himself to antiquarian studies. He was the author of many works on political, antiquarian, and other subjects. He died at Bath.

POWTER, or POUTER: see POUT 2.

POWWOW, n. *pow'wow:* among the *N. Amer. Indians*, a priest or conjuror; a conjuration consisting of dancing, etc., for the cure of a disease.

POX, n. *pŏks* [another spelling of *pocks:* see POCK]: pustules or eruptions of any kind on the skin; venereal disease; an eruptive disease, as *small-pox.*

POY, n. *poy* [a probable corruption of Eng. *poise:* comp. F. *appui*, prop, stay]: a rope-dancer's pole; a support.

POYDRAS, *poy-drâs'*, JULIEN: philanthropist: b. prob. in La.; d. 1824, June 25. He was the first delegate to congress from the territory of Orleans, now the state of La., 1809–1811, Mar. 3. From the fortune which he acquired, he gave $100,000 to found an orphan asylum at New Orleans, and left $200,000 for a college at Point Coupée, La. He died at Point Coupée.

POYNDING: see POINDING.

POYNTELL, n. *poyn'tĕl* [perhaps F. *pointillé*, marked with small points]: paving formed into small lozenges or squares laid diagonally.

POYNTER, *poyn'tėr*, EDWARD JOHN: English artist: b. Paris, 1836, Mar. 20. He studied art in the English schools and under Gleyre at Paris. In 1871 he was appointed Slade prof. of art in University College, London, and in the same year was made a member of the Belgian Water-Color Soc. 1869, Jan., he was elected an associate of the Royal Acad., and 1876, June 29, a full academician. For a number of years he was director for art and principal of the National Art Training School at South Kensington, but resigned 1881, retaining his connection with the Training School as visitor. In 1879 he published *Ten Lectures on Art.* Of his numerous pictures many of the subjects are classical.

POZZO DI BORGO, *pŏt'sō dē bor'gō*, **Carlo Andrea**: Russian diplomatist: 1764, Mar. 8—1842, Feb. 15; b. Alata, in Corsica. He was educated at the Univ. of Pisa. Returning to Corsica, he adopted the profession of advocate, in which he soon became distinguished for acuteness and eloquence; and about this time an intimacy sprang up between him and the two young Bonapartes, Napoleon (I.) and Joseph. P.'s ability soon gained for him the esteem of Paoli (q.v.), who made him the confidant of his plans, to the disgust of the Bonaparte family, who considered themselves slighted. A coolness began between P. and young Napoleon, which, as their paths in life diverged more and more, passed through the various grades of antagonism, dislike, distrust, and hatred, till, when the latter swayed the sceptre of France, and the former became the supreme trusted adviser of Russia and Austria, it culminated in a deadly struggle for victory between the diplomatist and the warrior. P. represented Corsica in the French national assembly (1791–2); but his party, that which wished to unite liberty and hereditary rule, being overpowered by their 'radical' opponents, he was compelled to return to Corsica, where he again attached himself to Paoli's party; and on the failure of that chief's plans, retired to London. Here he became the agent of the French refugees; and 1798 having thoroughly broken with the Bonapartes and come to regard Napoleon as the 'scourge of the world,' he went to Vienna to promote an alliance of Austria and Russia against France; and accompanied the Russian army in the campaign of 1799. In 1803 he entered the Russian service as a councilor of state, from this time giving his whole attention to diplomacy. He was at the bottom of the Russo-Austrian alliance, which was dissolved by the battle of Austerlitz (1805); but after the treaty of Tilsit, fearing lest Napoleon might insist on his being given up, he retired to Austria, from which country Napoleon 1809 demanded his extradition. Emperor Francis refused; but P., to avoid trouble, retired to England (1810), whence after a while he returned to Russia. He soon induced Emperor Alexander to make certain custom-house regulations which offended Napoleon, and were a chief cause of the rupture which resulted in the campaign of 1812; he also suggested to the emperor, and effected, the seduction of Murat, Bernadotte, and Moreau from the Napoleonic cause; and after the victorious allies had driven Napoleon across the Rhine, P., at the congress of Frankfurt-on-the-Main, drew up his famous declaration, 'that the allies made war not on France, but on Napoleon.' From this time, his energies were devoted to the task of keeping Alexander inflexible with regard to Napoleon's seductive offers of accommodation. P. counselled the allied powers to the decisive step of marching on Paris; but after his old antagonist's downfall, he exerted himself with equal vigor at Paris (where he signed the treaty of 1815 as Russian ambassador) and at Aix-la-Chapelle

(1818) to ameliorate, as much as possible, the hard conditions imposed on France. After the accession of Emperor Nicholas, he was, though highly esteemed, less confided in, and accordingly accepted the post of Russian ambassador in London; but retired from public life 1839, and settled in Paris, where he died.

POZZUOLANA, n. *pŏz′zô-ō-lâ′nă*, or **POZZOLANA**, n. *pŏz′zô-lâ′nă:* a volcanic ash or sand from Pozzuoli (q.v.), near Naples, largely employed in manufacture of Roman or hydraulic cement.

POZZUOLI, *pŏt-sô-ō′lē* (anc. *Puteoli*): city of s. Italy, at the e. of the Bay of Naples, in the province of Naples. Pop. 12,000.—It is interesting chiefly from its numerous memorials of classic ages. Its cathedral was the Temple of Augustus. There is the Temple of Serapis, an Egyptian god invoked by the priests to render the mineral waters of the place efficacious as remedies. The interior of the temple had a portico of 24 pillars, surrounded by 70 chambers for the sick and for the priests. In the harbor are still seen 13 pillars, which formerly supported as many arcades, under which the inhabitants used to congregate to watch for the vessels coming from Africa. There is an arch erected to Antoninus Pius, for having restored 20 of those pillars. There are the remains of an amphitheatre which might have contained 25,000 spectators. The Solfatara (*Forum Vulcani*) is a half-extinct volcano near P., from which springs saline water, used as a remedy for cutaneous diseases. Near the Montenuovo is the famous Lago d'Averno, inclosed among hills; and not far from it there is the Sibyl's Cave (*La Grotta della Sibilla*), which, however, is nothing more than the remains of a subterranean passage leading, perhaps, to Baja. On a plain is an extinct volcano; there Cumæ stood, now all in ruins. In the environs of P. are seen the promontory of Posilipo, the Elysian Fields (*Campi Elisi*), near the harbor of Miseno, and the Lake of Agnano, formerly the crater of a volcano.

P. was built probably by the Cumani (Greek colonists of Cumæ), who gave its gulf the name *Cumanus*. They called the new port *De Cœarchia*, a name afterward changed to *Puteoli*, in allusion perhaps to the sulphur wells or springs (*putei*) with which it abounded. Puteoli is mentioned in history first during the second Punic war, when by order of the senate it was surrounded by strong walls. B.C. 214 it repulsed Hannibal; and from that period rose in importance until, toward the close of the republic, it became virtually the port of Rome, and during the empire was really the first emporium of commerce in Italy. Puteoli was destroyed by Alaric, Genseric, and Totila; and though rebuilt by the Byzantine Greeks, it was exposed to new devastations, to earthquakes and volcanic eruptions, and soon sank into the decay in which it remains.

PRAAM, n. *prâm* [Dut. *praam;* Ger. *prahm*, a flat-bottomed boat or lighter]: a flat boat or lighter used in Holland, the Baltic, etc.; in *mil.*, a flat-bottomed vessel mounting cannon; a kind of battery used to cover the landing of troops.

PRACTIC, or PRACTICK, a. *prăk'tĭk:* OE. for PRACTICE: relating to action, and not theory merely; sly; skilful.

PRACTICABLE, a. *prăk'tĭ-kă-bl* [OF. *practicable;* F. *praticable*, practicable—from F. *pratique*, skill—from mid. L. *practĭcus*, active: Gr. *praktĭkos*, fit for doing—from *prassō*, I do: Sp. *practicable*, practicable; *practico*, practice, method]: that may be done or effected by human means; that may be passed or travelled, as a road; feasible; that may be assailed, as a breach in a fortification. PRAC'TICABLY, ad. *-kă-blĭ*, in such a manner as may be performed. PRAC'TICABIL'ITY, n. *-bĭl'ĭ-tĭ*, or PRAC'TICABLENESS, n. *-bl-nĕs*, the quality or state of being practicable; feasibility; possibility of being performed. PRACTICAL, a. *prăk'tĭ-kăl*, pertaining to action or use; that may be done or acted; derived from practice or experience; that may be reduced to actual use; not theoretical. PRAC'TICALLY, ad. *-lĭ*, by practice; in real fact. PRAC'TICALNESS, n. *-nĕs*, the quality of being practical. PRAC'TICE, n. *-tĭs*, frequent actions of the same or a similar kind; custom or habit; use or usage; method or art of doing anything; exercise of any profession: a rule in arithmetic, so called as applicable to daily transactions (see below): in *OE.*, a wicked stratagem; an evil artifice. PRACTICE, v. *prăk'tĭs*, to do frequently or habitually; to exercise any profession or art, as medicine, law, etc.; to use for instruction or discipline; to commit; to form a habit of acting in any manner; to negotiate secretly; in *OE.*, to use bad arts or stratagems. PRAC'TICING, imp.: ADJ. exercising as an art or profession; engaged in a professional employment. PRAC'TICED, pp. *-tĭst:* ADJ. having had much practice; skilled; experienced. PRAC'TICER, n. *-ėr*, one who practices; a practitioner. PRACTITIONER, n. *prăk-tĭsh'ŭn-ėr*, one engaged in the actual exercise of any art or profession; one who does anything frequently or habitually; in *OE.*, one who uses sly or dangerous arts. PRACTICAL JOKE, a trick played that hurts or tends to hurt the body, results in an indignity, or injures or destroys property.—SYN. of 'practice, n.': custom; use; usage; habit; manner; method; art; fashion; prescription; dexterity; performance; treatment; stratagem.

PRAC'TICE, in Arithmetic: method, or rather system of expedients, for shortening or avoiding the operation of compound multiplication. E.g.: suppose that the price of 64,875 articles at \$2.87½ is required. It is obvious that the price at \$1 would be \$64,875; therefore, at \$2, it is \$129,750; at 50 cents it is the half of that at \$1, viz., \$32,437.50; at 25 cents the half of this last sum, or \$16,218.75; and at 12½ cents the half of this, or \$8,109.-

37½. The sum of these partial prices gives the whole price—thus,

Price at $2.00,	$129,750.00
" " .50 (= ½ of $1.00),	32,437.50
" " .25 (= ½ of .50),	16,218.75
" " .12½ (= ½ of .25),	8,109.37½
$2.87½	$186,515.62½

The general principle of the method is to decompose the lower denominations of the compound factor into *aliquot parts* of the higher unit. A still simpler way with the above example is the following:

Price at $3.00,	$194,625.00
" " .12½ (= ⅛ of $1.00),	8,109.37½
	$186,515.62½

PRAD, n. *prăd* [perhaps connected with Ger. *pferd*, a horse]: in *colloquial usage*, a horse.

PRADIER, *prâ-de-ā′*, JEAN JACQUES: French sculptor: 1792, May 23—1852, June 4; b. Geneva, Switzerland; of a family that a century previous had been driven away by the revocation of the edict of Nantes. He early began his studies under the sculptor Lenot; in 1813, and again 1819, he received the gold medal; 1814, the grand prize entitling him to four years' study in Italy at public expense; 1827 he was made a member of the Acad. of Fine Arts. Some of his works are of saintly subjects for churches, e.g., the *Madeleine;* but his style was not spiritual. The figures of the fountain of Nîmes are regarded as among his most masterly productions; also the tragic and the comic muses of the fountain of Molière in Paris, and the *Prometheus* in the Tuileries garden. Other works are *Industry*, in the exchange; *Liberty*, in the old chamber of deputies; antique subjects in the Louvre; *Psyche*, *Phryne*, *Atalanta*, *Cyparissus*, and his last work, *Sappho*. He died in Paris.

PRÆ-, *prē-* or *prĕ-* [L.]: a prefix signifying 'before; in front of:' as a prefix, *præ* is now commonly spelled *pre;* generally, for words beginning PRÆ, see PRE.

PRÆCIPE, n. *prē′sĭ-pĕ* [L. *præcĭpe*, take or receive beforehand—from *præ*, before; *capĭo*, I take]: in *law*, a writ to a defendant ordering something to be done, or requiring a reason why it has not been done.

PRÆCORDIUM, *prē-kŏr′dĭ-ŭm:* see PRECORDIUM.

PRAED, *prād*, WINTHROP MACKWORTH: English poet, and member of parliament: 1802–1839, July 15; son of a London banker. He was educated at Eton and Cambridge, where he distinguished himself, especially as a prize writer of Greek and English poems, graduating 1825. He studied law and was admitted to practice, but was almost continuously in parliament from 1830 till his death, in the intervals holding a secretaryship under govt., and the recordership of Barnstaple. He established a paper, the *Etonian;* and was a writer for *Knight*'s *Quarterly Magazine*. His poems, mostly very spirited society verses, were collected first by an American publisher, 1844.

PRÆ′FECT: see PREFECT.

PRÆFLORA′TION: see PREFLORATION.

PRÆFOLIA′TION: see PREFOLIATION.

PRÆMUNIRE, or PREMUNIRE, n. *prē′mū-nī′rĕ* [F. *prémunir*, to forearm, to warn—from L. *præmunīrĕ*, to fortify, to protect—from *præ*, before; *munĭo*, I fortify]: in *English law*, an offense of the nature of a contempt against the sovereign and his government, and punishable with forfeiture and imprisonment: also the writ that deals with the offense, and the penalty attached to it. The name is from the first words (*præmunire* or *præmonere facias*) of a writ originally introduced to repress papal encroachments on the power of the crown. The first statute of P. was passed in the reign of Edward I. The attacks of the popes on the rights of private patrons, by bestowing bishoprics, abbacies, etc., on favorites before they were void, were the immediate cause of various subsequent statutes of P., which made it penal to endeavor to enforce the authority of papal bulls and provisions in England. By later statutes, a number of miscellaneous offenses have been rendered liable to the penalties of a P.: e.g. (by 6 Anne c. 7), the asserting by preaching, teaching, or advisedly speaking, that any person, other than according to the Acts of Settlement and Union, has any right to the throne of these kingdoms, or that the sovereign and parliament cannot make laws to limit the descent of the crown. The knowingly and wilfully solemnizing, assisting, or being present at any marriage forbidden by the Royal Marriage Act is declared by 12 Geo. III. c 11 to infer a præmunire. PREMUNITORY, a. *prĕ-mū′nĭ-tėr-ĭ*, defining a penalty that may be incurred.

PRÆNES′TE: see PALESTRINA.

PRÆNOMEN, n. *prē-nō′mĕn* [L.—from *præ*, before and *nomen*, name]: in *Rom. antiq.*, name prefixed to the family, and answering to our Christian name; e.g., Caius, Julius, Marcus, etc.

PRÆTEXTA, n. *prē-tĕks′tă* [L.—from *prætexĕrĕ*, to fringe—from *præ*, before; *texo*, I weave]: among the *anc. Romans*, a long white robe bordered with purple, worn by priests and magistrates, by boys of the higher class till seventeen years of age, and by girls till they were married.

PRÆ′TOR—PRÆTO′RIAN: see PRETOR: PRETORIAN.

PRA′GA: see WARSAW.

PRAGMATIC, a. *prăg-măt′ĭk*, or PRAGMAT′ICAL, a. *-ĭ-kăl* [L. *pragmatĭcus;* Gr. *pragmatĭkos*, skilled in business—from Gr. *pragma*, that which is done—from *prassō*, I do: F. *pragmatique*]: meddling; impertinently busy or officious; relating to some important business or affair. PRAGMAT′ICALLY, ad. *-lĭ*. PRAGMAT′ICALNESS, n. *-nĕs*, the quality of being pragmatic; activity; meddlesomeness. PRAGMATIC SANCTION or RESCRIPT, solemn ordinance or decree of the head of a state, promulgated by advice of his council, and relating to important affairs. The term originated in the Byzantine empire, and signified a public and solemn decree by a prince, as distinguished from the simple rescript, which was a declaration of law in answer to an individual. This name is given to several important treaties, of which the principal are: 1. An ordinance of Charles VII. of France (1438) in which the rights of the Gallican Church were asserted against the usurpation of the pope in appointment of bishops. Twenty years later, Louis XI., to please Pope Pius II., was induced to give up this P. sanction, which was ignominiously dragged through the streets of Rome; but at a subsequent date, a quarrel having arisen between Louis and the pope, the P. sanction was re-enacted. 2. The instrument which settled the empire of Germany in the House of Austria (1439). 3. The ordinance by which Charles VI., Emperor of Germany, having no male issue, settled his dominions on his daughter, the Archduchess Maria Theresa (1713), which was confirmed by the diet of the empire, and guaranteed by Great Britain, France, the states-general, and most of the European powers. 4. The settlement of the succession of the kingdom of Naples, which was ceded by Charles II. of Spain, 1759, to his third son and his descendants.

PRAGUE, *prăg*, Ger. *prâg* (Ger. *Prag*, Slav. *Praha*): city, capital of Bohemia; 50° 5′ n. lat., 14° 30′ e. long.; on the slope of the hills which skirt both sides of the river Moldau, 251 m. n.e. of Vienna by railway. Pop. (1880) 162,323 in P. proper; about 250,000 including the suburbs; (1885) total pop. 272,333—nearly five-sevenths of Slavonic race; and all Rom. Catholics except 5,000 Protestants and 20,000 Jews. P., which ranks as the third city of Austria, presents a highly picturesque appearance from the beauty of its site, and the numerous lofty towers (more than 70) which rise above the many noble palaces, public buildings, and bridges of the city. It consists of four principal parts: 1. The Kleinseite, occupied chiefly by public offices and residences of the officials; 2. The Hradschin (or palace district), surmounted by the vast imperial castle, and containing some of the most ancient and interesting churches and palaces of P.; 3. The Jews' Quarter, now known as the Josephstadt, which forms the chief business-quarter, and contains numerous churches, ecclesiastical and educational establishments; 4. The 'New Town,' containing the largest number of streets and open squares, with many modern palaces, charitable institutions, and places of public resort. P. is surrounded by walls and bastions, and has eight gates. The citadel, ancient residence of the dukes of Bohemia, is well fortified, and, from its elevated position above the Moldau, thoroughly commands the city. P. has 55 Rom. Cath. and 3 Prot. churches, 15 monasteries, and 10 synagogues. Among the most noteworthy of these are the Metropolitan, or St. Veits, with its lofty tower, a fine but unfinished specimen of the Gothic of the 14th c., containing the remains of St. Ludmilla, first duchess of Bohemia, and of seven kings and emperors of Germany, with the grave of St. Wenceslaus, and the silver sarcophagus of St. Nepomuk (see JOHN, ST., of NEPOMUK), a popular saint of Bohemia; St. Nicolas, or the church of the Jesuits, with its many towers and costly decorations; the Thein Church, built 1407; the old Hussite Church, with the grave of Tycho Brahé, and its marble monuments of the Slavonic martyrs, Cyril and Methodius. Among numerous public and other buildings of note in P., the following are some of the more interesting: the royal palace, the cathedral, the Theresa Institution for Ladies, the ancient Byzantine Church of St. George; the Hradschin square, with the imposing palaces of the primate, the ex-emperor, and Prince Schwarzenberg; the Loretto Chapel, with its gorgeously bejewelled church vessels; the vast Czerni Palace, now used as an institution of charity; the picture gallery; the Præmonstratensian monastery of Strahow; the royal library; and at the summit of the Laurenzberg, the restored Church of St. Lawrence. P. has numerous public gardens and walks in the suburbs, which, with the several royal and noble parks open to the public in the vicinity of the city, afford varied resources for health and open-air recreations. The modern suburb of Karolinenthal, traversed by the great viaduct of the railway, has some fine buildings, numerous gardens, barracks, and manufacturing establishments; and somewhat further n. is the great botanical garden, with the neighboring public walks on the Moldau. The univ., one of the most ancient in Europe, founded 1348, had the greatest celebrity in the 15th c., when many thousand scholars came from foreign countries to study in its halls; but subsequently it had a long period of decay. It received a new constitution 1881, having now two co-ordinate sides or sections, one German and one Czech; a library of 142,000 vols. and 7,762 manuscripts; a fine observatory; museums of zoology and anatomy; a botanical garden, etc. P. has also 1 polytechnic, 3 gymnasia, Bohemian and German training schools, and about 20 parish schools. The manufactures include leather, cotton, and linen goods, stockings, printed cottons, machinery of various kinds, beet-root sugar, etc. P. is the great centre of the commerce of Bohemia, and the seat of an important transit trade.

History.—According to popular tradition, P. was founded 722 by Duchess Libussa. In the 13th c., its importance was fully recognized; in the 14th and 15th c., its munificently endowed univ. brought foreigners from every part, until the decision of Emperor Wenceslaus to favor Bohemian students more than others drove thousands of the scholars with their professors to other spots, and led to the foundation of universities at Leipzig, Ingolstadt, Rostock, and Cracow. In 1424 P. was conquered and almost destroyed by the Hussites, who had made a successful stand against Emperor Sigismund's army; but after the subsequent defeat and submission of the insurgents, the city was rebuilt. In the Thirty Years' War, it suffered severely, and 1620 the battle was fought at the White Mountain, near the city, in which the Elector-Palatine, Frederick V., known as the Winter King, and son-in-law of James I. of England, was completely defeated, and compelled to renounce his assumed crown, and to give up the town into the power of the emperor. Swedes and Imperialists successively gained possession of it during the war; and a century later, during the Seven Years' War, it again fell into the hands of different victors, having been compelled, 1744, to capitulate to Frederick the Great of Prussia; and until the war of deliverance in Germany, and the downfall of Napoleon, the city continued to suffer more or less directly from the troubles in which the House of Austria had been involved. During the 19th c., its advance has been rapid; and it has had peace, except 1848, when the meeting of the Slavonic Congress within its walls called forth such strongly marked democratic demonstrations on the part of the supporters of Panslavism (q.v.), that the Austrian govt. dissolved the conclave, and restored quiet by the summary method of causing the old and new town to be bombarded for two days.

PRAI′A GRAN′DE: see RIO DE JANEIRO (Province).

PRAIRIE, n. *prār′ĭ* [F. *prairie;* OF. *praerie*, an extensive meadow: It. *prateria*, meadows—from mid. L. *pratārĭă*—from L. *prātum*, a meadow]: in *N. Amer.*, an open and slightly undulating grassy plain of great fertility and vast extent. The name was given by the early French explorers of the n. portion of the Mississippi valley to the vast fertile plains which extended from w. Ohio and s. Mich., across the states of Ind., Ill., Mo., Ark., Io., Kan., Neb., and the Dakotas, including s. Wis. and s. Minn. These great plains or savannas are sometimes flat, but oftener rolling like the long swells of the ocean, and rise in very gradual elevation from 300 to 1,500 ft. above sea-level. The great plateaus (less fertile) of Wyo., Colo., Mont., and N. Mex. (2,000—7,000 ft. above sea) are sometimes included among prairies, but this extension of the term is not usual. See PLAIN. The prairies are drained by numerous rivers, branches of the Ohio, Mississippi, and Missouri, or emptying into Lake Michigan; whose channels seem to have been worn to the depth of 50 to 300 ft., with vertical walls or bluffs of limestone, sandstone, showing in some places banks of clay, sand, and loam, 200 ft. in thickness. Beneath the prairies n.w. of the Ohio are extensive coal-fields, with deposits of iron, lead, etc. The soil is finely comminuted, rich, and extremely fertile, varying in thickness from one or two ft.

to the bottom-lands on the borders of the rivers, which are of great depth and inexhaustible fertility. These plains are destitute of trees, except in isolated groves, a few rocky ridges, and the borders of streams. They are covered with fine grasses, and brilliant flowers of various species of the helianthoid *Compositæ*. Water is found 15 to 30 ft. below the surface. These great prairies, covering about 400,000 sq. m., formerly fed vast herds of buffalo, deer, wild turkeys, prairie hens or grouse, prairie dog, squirrel, etc. In the autumn, the dried grasses, fired by the Indians, converted them into seas of flame. Remains of ancient mounds, fortifications, and cities show that they were, at some distant period, inhabited by a more civilized race than the Indians found by European discoverers. These great rolling plains, or natural pastures, with only the labor of ploughing, produce large crops of wheat and maize; and penetrated by navigable rivers, and crossed by cheaply built railways, they form one of the most easily cultivated and prolific regions of the world, and are capable of sustaining immense populations.

By common assent, the prairies are of lacustrine formation—their fine soil derived largely from the silt deposited from the inundation that closed the glacial period. Their continued treeless condition was attributed by Lesquereux and A. Winchell to the exclusive grasses; by J. D. Whitney to the pulverulent soil; by C. A. White and others to action of prairie fires; by Newberry to the small percentage of rain, not averaging more than 20 in. annually, his argument being confirmed by the relation of rain to forests and to treeless regions on all the continents. It is now the accepted opinion that all these causes must be taken into account. The close high grasses would overshadow plantlets, and the fires would destroy. It is a fact, however, that dried-up ponds in the middle of a forest often remain without trees; also that the best-watered regions, e.g., the n.w. Pacific coast, are heavily timbered. The borders of prairie streams have woodlands; but there the fine topsoil is removed, leaving a clayey and more or less gravelly earth; and the moisture from small streams would not account for a broad strip of woodland. A similar contrast of soil, from the glacial proper to the prairie lacustrine, is noticeable as one reaches the prairie lands in the region of the Wabash river, going westward, and this without much apparent change of level nor probably much difference of rainfall there. Orchards and groves grow rapidly on the prairies, with every advance of settlement, though these and general cultivation undoubtedly increase the moisture of the air and the rainfall. Besides, it is proverbial that the prairie soil, when very deep, as it usually is, has a wonderful power of withstanding the droughts that afflict the west, the crops flourishing by supplies of moisture coming up from great depths, even when the ground is dried into deep cracks an inch in breadth. The soil is not impervious to tree-roots, as sometimes said; it is extremely pervious to any roots. Oaks are the principal trees of native growth; and nature's oak-planters, the arboreal squirrels, should be taken into account. It may be much due to their agency that groves have crept up the larger streams, or have spread out from clayey, gravelly centres, where a meagre growth of grass has checked the prairie fires. On the whole, the facts tend to show that, before agricultural settlement, various causes prevented trees from getting a start; once started, nothing prevents; fruit-trees even run to excessive unproductive wood. Only on the dry 'plains' w. of the 100th parallel, there is not moisture enough for anything besides a few weeds, and the small 'buffalo grass,' in the state of nature.

PRAIRIE DOG, *prā́rĭ dŏg* (*Cynomys Ludovicianus*): interesting species of Marmot (q.v.), inhabitant of some far western prairies. It is about the size of a squirrel or large rat; and has soft, reddish-gray fur, each hair being red, with a white tip. The name P. D. seems to have been given it from its frequent utterance of a sound somewhat like the bark of a very young puppy. For the same reason, it is called also the Barking Squirrel. A more correct name would be Barking Marmot, or Prairie Marmot. The P. D. does not inhabit the rich grass-covered prairies where the buffalo (bison) formerly abounded; but those which, from lack of water, show comparatively scanty vegetation; and in these it is found in vast numbers, being gregarious in its habits, burrowing in the ground, and throwing up mounds of earth, on whose tops the little creature often sits as if on watch. The whole extent of a great level prairie is often covered with these hillocks. 'Their number is incredible,' says the Honorable C. A. Murray, in his *Travels in N. America*, 'and their cities, for they deserve no less a name, are full of activity and bustle.' As soon as the hand is

Prairie Dog (*Cynomys Ludovicianus*).

raised to a weapon or missile, they whisk into their holes, with amazing rapidity, and then wheel round and look out at the enemy. Still more interesting is the frequent association of the P. D. with the burrowing owl and the rattlesnake in the same burrow—an association which has been variously described as one of strange friendship among very different creatures; and as one far from friendly—the owl and the rattlesnake being supposed to prey on the P. D. and its young. But this is doubtful as concerns the owl, for its *casts* seem to show its food to consist entirely of insects: it probably finds the burrows of the marmots its only convenient retreat, and their proper inmates harmless neighbors. Another species, *C. columbianus*, is the one living w. of the Rocky Mountains.

PRAIRIE DU CHIEN, *prā′rē dū shēn′:* city, cap. of Crawford co., Wis.; on the Mississippi river and the Chicago Milwaukee and St. Paul railroad; 2 m. above the mouth of the Wisconsin river, 87 m. w. of Madison. It is on a prairie 9 m. long by 1 m. wide; has 7 churches, high school, St. John's College for boys, St. Mary's Institute for girls (both Rom. Cath.), 1 state bank, and 2 weekly newspapers; is noted for its artesian mineral wells; and contains important manufactories. Pop. (1870) 2,700; (1880) 2,777; (1885) 3,326.

PRAI′RIE HEN: see GROUSE.

PRAI′RIE SQUIRREL (*Spermophilus*): genus of *Sciuridæ*, connecting ground-squirrels, such as the chipmunk, with marmots, and characteristic of the w. prairies. The tail is less bushy than that of other squirrels, and the cheek-pouches much more capacious. Most frequent in Io., n. Ill., Wis., and Minn. is the LEOPARD SQUIRREL (*S. tredecim-lineatus*), called sometimes Striped Gopher, about the size of a chipmunk, with 6 distinct stripes of whitish, alternating with five broader stripes of brown, which have in the centre a curious chain of whitish spots. Another frequent species (*S. Franklini*) is the GRAY GOPHER, size and color much like the gray tree-squirrel. The larger Cal. species (*S. Beecheyi*) is similar to this. Eleven species have been described. These squirrels live in ground-holes, and, when abroad, have the habit of often standing erect and motionless, and are then hardly observable. The Cal. species is said to work considerable injury to crops. The Leopard Squirrel seems likely to survive by taking refuge under the board walks of villages in the west.

PRAI′RIE WOLF: see WOLF.

PRAISE, n. *prāz* [It. *prezzo;* Ger. *preis*, price, praise: Dut. *prijs*, price, worth: Sp. *prez*, honor or glory: F. *priser*, to rate, to value; *prix*, a prize: L. *prĕtĭŭm*, a price —*lit.*, to exalt the price or value of a thing]: commendation bestowed upon a person; admiration or approbation expressed; fame; renown; applause; a glorifying or extolling, as God; the ground of praise: V. to speak in commendation of; to express approbation of; to extol; to commend; to glorify in words or song, as God; to celebrate. PRAIS′ING, imp. PRAISED, pp. *prāzd.* PRAISE′LESS, a. *-lĕs*, without praise or commendation. PRAIS′ER, n. *-ėr*, one who praises or commends. PRAISE′WORTHY, a. deserving of praise or commendation. PRAISEWOR′THINESS, n. the quality of being praiseworthy. PRAISEWOR′THILY, ad. *-lĭ.*—SYN. of 'praise, n.': commendation; renown; fame; honor; celebrity; glorification; laudation; applause; approbation; extolling; encomium; eulogy; panegyric; plaudit; acclaim; éclat; magnifying.

PRAJÂPATI, *pra-jâ′pa-tĭ* [from Skr. *prajâ*, creation, created beings; and *pati*, lord]: in Hindu mythology, a name of the god Brahmâ; but a name also of those divine personages who, produced by Brahmâ, created all existing beings and things, inclusive of gods, demons, and natural phenomena. Manu refers to ten such *Prajâpatis* engendered, through pure meditation, by the god Brahmâ —viz., Marîchi, Atri, Angiras, Pulastya, Pulaha, Kratu, Prachetas or Daksha, Vasisht′ha, Bhr′igu, and Nârada. The Mahâbhârata, however, leaves out Daksha, Bhr′igu, and Nârada; and other variations occur in the different Purân′as. Whereas, also, these 'lords of creation,' in conformity with Manu, are in some of these works regarded as the mind-born sons of Brahmâ, some Purân′as derive them from different parts of Brahmâ's body. The only interesting point in this theory of the Prajâpatis is the assumption that the world did not immediately proceed from Brahmâ, the highest god, but through the intermediate agency of beings which thus stand between him and creation.

PRAJNÂ PÂRAMITÂ [literally, wisdom which has gone to the other shore, viz., of its object; i.e., absolute or transcendental wisdom, from Skr. *prajnâ*, wisdom, *pâram*, to the other shore, and *ita*, gone]: title of the principal Sûtra (q.v.) of the Mahâyâna school of the Buddhists (see BUDDHISM). Its main object is metaphysical; but the commencement of the work is merely a eulogy of Buddha, and of the Bodhisattwas, who form his retinue. Other parts of it contain incidental narratives of wonderful phenomena connected with the apparition of Buddhist saints, or a description of the benefits arising from an observance of the Buddhistic doctrine, or verses in which the Buddha is praised by his disciples, and similar irrelevant matter. It is probably on account of the extent which could easily be imparted to such episodical topics, but also by amplifying the real substance of the work, that several recensions of the P.

are in existence, both with the Buddhists and Tibetans (see LAMA); some of these do not contain more than 7,000 or 8,000 or 10,000 s'lokas, or paragraphs; but others amount to 18,000, 25,000, or 100,000 s'lokas. The following may serve as a specimen of the abstruse ideas treated of in this great work of the Buddhistic doctrine.—No object has existence or non-existence; nothing belongs to eternity or non-eternity, to pain or pleasure, to vacuity or non-vacuity. All objects are without attributes and with attributes, with and without characteristic marks. Bodhisattwa (the name for a deified saint) and Prajnâ (wisdom) are synonymous terms; such a term neither arises nor perishes; it exists neither inwardly nor outwardly, because it cannot be seized; but the Bodhisattwa must accomplish his career under this fallacious name; it is his duty, however, to look neither upon form nor anything else as an eternal or non-eternal, as a pure or impure matter, etc. Then only when he is in a condition of complete indifference regarding everything is he capable of encompassing the whole wisdom. . . . . The absence of nature is the nature of everything; all objects are separated from their characteristics. All objects neither appear nor are born, nor disappear, nor cease to be, nor are they pure nor impure, nor are they acquirable nor non-acquirable. Want of understanding is the not understanding that objects are nonentities. From the want of understanding proceed all subjective notions; and through the latter one becomes incapacitated from fulfilling the behests of the sacred doctrine, and from entering the path which leads to wisdom. . . . Everything is like the echo, or a shadow, or anything else without substance.—In short, the doctrine of the P. is the entire negation of the subject as well as the object; and whatever be the difference in detail between the points of view from which it looks on subject or subject, or between its comparisons and circumlocutions, the result is always the same: that the object of ascertainment, or the highest wisdom, has no more real existence than the subject striving to attain to it, or the Bodhisattwa. —See E. Burnouf, *Introduction à l'Histoire du Buddhisme Indien* (1844); W. Wassiljew, *Der Buddhismus* (1860); and more recent works mentioned under BUDDHISM.

PRAKRIT, n. a. *prâ'krĭt* [from Skr. *prakr'iti*, nature; hence, natural, not accomplished, vulgar]: collective name of those languages or dialects which are immediately derived from or stand in an immediate relation to Sanskrit, or 'the accomplished' Language (q.v.) of the Hindus. These languages, which now exist only in writing, must not be confounded with those modern languages of India which also have affinity with the Sanskrit; for, in the P. languages, however much they may differ from Sanskrit in their phonetic laws, the words and grammatical forms are immediately derived from that language; whereas, in the modern tongues of India, there is not only no connection between their phonetic laws and those of Sanskrit, but their grammatical forms also are wholly different from those of the ancient language; and while many of their words have no Sanskritic origin, even those which have, show that they are not immediately drawn from that source. The P. languages comprise, besides the *Pali* (q.v.), which generally, however, is not included among them, those dialects found in the dramas and in the oldest inscriptions. In the dramas, it is women, except female religious characters, and subordinate male personages, who are made to speak in these languages—the use of Sanskrit being reserved for the higher characters of the play—and among the former, again, the choice of the special P. dialect is adapted by the poet to the rank which such a subordinate personage holds, the more refined dialect being appropriated, e.g., to the wives of the king or hero of the play; an inferior P. to his ministers; others less in degree to the sons of the ministers, soldiers, townspeople, and the like; down to the lowest P., spoken only by servants, or the lowest classes. A work on the poetical art, the *Sâhityadarpan′a*, enumerates 14 such P. dialects; but Vâraruchi, oldest known grammarian of the P. dialects, knows but four—viz., the *Mahârâsht′rî*, *S′aurasenî*, *Mâgadhî*, and *Pais′âchî;* and Lassen, in *Indische Alterthumskunde*, holds that, of those, only the *S′aurasenî* and the *Mâgadhî* have a really local character—the former, as he assumes, having been the vernacular of a large district of western, and the latter—which is also the Prâkr′it in the inscriptions of King As′oka—of eastern India; whereas the Mahârâsht′rî, or the language of the Mahrattas, does not seem to have been the language of the country the name of which it bears; and the Pais′âchî, or the language of the Pis′âcha, is obviously merely a fancy name. The principal P. dialect is the Mahârâsht′rî; the lowest, according to some, the Pais′âchî, of which two varieties are mentioned; but according to others, the *Apabhramo′a*—which word originally means 'a falling off'—i.e., a dialect which completely deviates from the grammatical laws of Sanskrit, but in this special application would designate a dialect even inferior to the Pais′âchî, and is compared by a grammarian to the language of the reptiles. On the grammar of the P. languages, see Chr. Lassen, *Institutiones Linguæ Pracriticæ* (Bonn 1837). The Sûtras, or grammatical rules of Vâraruchi, have been edited in the same work; but more elaborately, with a commentary, copious notes, an English translation, appendixes, and an index, by Edward Byles Cowell, who has also added to this excellent edition *An Easy Introduction to Prâkr′it Grammar* (Hertford, Eng., 1854).

PRANCE, v. *prâns* [Ger. *prangen*, to shine; *prunken*, to make a show: Dut. *pronk*, ostentation: Sp. *brincar*, to jump, to frisk: W. *prancio*, to frolic]: to spring or bound, as a horse in high mettle; to ride ostentatiously; to walk or strut about in a showy manner. PRANC′ING, imp.: ADJ. moving as one who prances; bounding; riding with gallant show: N. the act of bounding, as a horse in high mettle. PRANCED, pp. *prânst.* PRANC′INGLY, ad. *-lĭ.* PRANC′ER, n. *-ėr*, one who or that which prances.

PRANK, n. *prăngk* [Sp. *brincar*, to jump, to frisk: W. *prancio*, to frolic—akin to PRANCE, which see]: a frolic or freak; a mischievous or merry trick done for sport; a capricious action: V. to dress or decorate to ostentation; to decorate. PRANK′ING, imp. PRANKED, pp. *prănkt.* PRANK′ISH, a. *-ĭsh*, full of pranks.

PRASE, n. *prāz* [Gr. *prason*, a leek]: dark leek-green variety of vitreous Quartz (q.v.): sometimes found crystallized in the same forms as common quartz, but usually massive, or in prismatic and granular concretions. It is rather rare, and is sometimes cut as an ornamental stone, but is not highly prized. PRASINOUS, a. *prăz′ĭ-nŭs*, in *bot.*, grass-green; green like a leek.

PRATE, n. *prāt* [prov. Ger. *praten;* Sw. and Icel. *prata;* Dut. *praaten*, to chat, to tattle: Dan. *prate*, to prate]: excessive or idle talking; chatter, tattle: V. to talk much and to little purpose; to chatter; to babble. PRA′TING, imp.: N. chatter; silly or idle talking: ADJ. talkative; garrulous. PRA′TED, pp. PRA′TER, n. *-tėr*, one who prates; a chatterer. PRA′TINGLY, ad. *-lĭ.*

PRATINCOLE, n. *prā′tĭn-kōl* [Latham's rendering of *pratincola*, the name given to *Glareola pratincola* by Kramer, 1756]: name first applied to *Glareola pratincola*, afterward extended to the other species of the genus. The pratincoles are small, slenderly built, delicately colored birds, with short, stout bill, wide gape, long, pointed wings, and tail more or less forked. Eight or nine species have been described, from s. Europe, Africa, India, China, and Australia. Like plovers, they run very swiftly. They make their nests on the ground, but feed, in part, on the wing. The young are clothed in down and are able to run on emerging from the shell.

PRATIQUE, n. *prăt′ĭk* or *pră-tēk′* [F. *pratique*, custom, practice: It. *pratica*, custom—from mid. L. *practĭcus*, active]: strictly, a limited quarantine; in the *European ports of the Mediterranean*, a license granted to a vessel that has come from an infected place to have intercourse with land after having performed quarantine.

PRATO, *prâ'tō* (often, for distinction, called **PRATO IN TOSCANA**): town of Italy, province of Florence (*Firenze*), 10 m. n.w. of Florence; in a fertile plain, on the right bank of the Bisenzio, a feeder of the Arno, and on the railway between Florence and Pistoja. There are manufactures of straw-plait, woolen cloth, cotton goods, silk thread, etc.; also soap-works, tanneries, and copper-works. Copper mines of considerable productiveness are near. Pop. (1881) 13,410.

PRATT, *prăt,* **BENJAMIN**: jurist: 1710, Mar. 13—1763, Jan. 5; b. Cohasset, Mass. He first learned a trade; but the loss of a leg in his youth caused him to apply himself to study; and he graduated at Harvard 1737 and studied law. Settling in Boston, he represented that city in the legislature 1757–59. Through his intimate acquaintance with Thomas Pownall, he was appointed chief-justice of New York. He had gathered data for an extensive history of New England, but died before the work was fairly begun. He was learned, eloquent, and noted for love of justice and liberty.

PRATT, CHARLES: see CAMDEN, CHARLES PRATT.

PRATT, DANIEL JOHNSON, PH.D.: 1827, Mar. 8—1884, Sep. 12; b. Westmoreland, Oneida co., N. Y.: educator. He graduated at Hamilton College 1851; was principal of the Fredonia (N. Y.) Acad. ten years; asst. sec. of the regents of the Univ. of the State of New York, and 1869 rec. sec. of the Albany Institute. He was one of the originators of the plan for an annual meeting or 'convocation' of professors and teachers of the colleges and academies of the state. Besides papers and reports on educational subjects, he was author of *Annals of Public Education in the State of New York*, 1626–1800 (1882); and largely the author of the *History of the Boundaries of the State of New York* (2 vols.), presented as a report to the legislature by the regents of the university. He died in Albany.

PRATT, JOHN, D.D.: 1800–82; b. Conn. He graduated at Brown Univ. 1827. At the founding of the Granville Bapt. College (now Denison Univ.), at Granville, O., 1831, he became its pres. and was for a time its only teacher. 1837–59 he was prof. of anc. languages in the college. He retired 1859, but continued active in promoting education in the state and among the Bapt. churches, till his death at Granville.

PRATT, ORSON: 1811, Sep. 19—1881, Oct. 4; b. Hartford, Washington co., N. Y.: Mormon apostle. He attended only the common schools of his native state, but became proficient in Hebrew and the higher mathematics. In 1830 he joined the Mormon Church; 1831 was made an elder, 1832 a high-priest, and 1835 one of the 12 apostles. He was sent on missions for the church throughout this country and Great Britain; was a member of the Utah legislative assembly, and for seven terms its speaker; prof. of mathematics in Deseret Univ., and

1874 made church historian. He was author of works on mathematics and the Mormon Church, and published many sermons and religious pamphlets. He died at Salt Lake City.

PRATT, PHINEHAS: 1590–1680, Apr. 19; b. England: pioneer. He accompanied Weston's colony to Weymouth, Mass., 1622; fled thence, pursued by Indians, to Plymouth 1623; and afterward settled in Charlestown. He was author of a *Declaration of the Affairs of the English People That First Inhabited New England* (1662), published in the *Collections* of the Mass. Historical Soc. (1858).

PRATT, ZADOCK: 1790, Oct. 30—1871, Apr. 6; b. Stephentown, N. Y.: manufacturer. He learned the tanning and saddlery trades; began business as a saddler and harness-maker 1811; engaged in tanning on an extensive scale 1815; established the largest tanning plant in the country; and built in its vicinity the town of Prattsville. He was elected to congress 1836 and 42; was a democratic presidential elector 1836 and 52; planned the post-office buildings in Washington; and was identified with numerous financial, industrial, and benevolent institutions.

PRATT INSTITUTE: manual, industrial, scientific, and art school in Brooklyn, established by Charles Pratt (b. Watertown, Mass., 1830, Oct. 2), and opened 1888. It is designed to accommodate three classes of young men and young women: members of the regular three years' course, who, in connection with their literary work, are instructed in wood and iron making; pupils in other schools who wish to supplement their studies with some kind of manual work; and persons who are employed during the day, but, desiring to learn a mechanic trade or to perfect themselves in the trade in which they are engaged, wish to join the evening classes. The main building is 6 stories high and covers 144 x 95 ft. The shop-buildings are: main, 4 stories, 102 x 37 ft., whose three upper stories are used as laboratories, class-rooms, etc.; forge and foundry rooms, 70 x 60 ft., one story, with ventilating sky-lights; wood and metal working shops, two stories 91 x 37 ft.; and dept. of building trades, 103 x 95 ft., and 30 ft. high, in which are taught bricklaying, stone-carving, plumbing, and modelling. The main building contains a large library, technical museum, parlors, reception and lecture hall, and class-rooms in which are taught art embroidery, dressmaking and millinery work, drawing, painting, and modelling, and cooking. During the term ending 1890, Dec. 19, between 2,200 and 2,300 students were in daily or evening attendance.—Mr. Pratt died at his residence in Brooklyn 1891, Mar. 4.

PRATTLE, n. *prăt'tl* [a dim. of Eng. *prate:* Ger. *prasseln*, to crackle: prov. Ger. *prateln*, to chat, to tattle: Swiss, *pradeln*, to tattle]: trifling talk; the pleasant trivial conversation of young children; chatter: V. to talk like a child; to chatter; to talk lightly. PRATTLING, imp. *prăt'tlĭng:* ADJ. talking much on trivial affairs; garrulous. PRAT'TLED, pp. *-tld.* PRAT'TLER, n. *-tlėr*, one who prattles.

PRAVITY, n. *prăv'ĭ-tĭ* [L. *prāvĭtas*, deformity, bad condition—from *prāvus*, deformed, perverse]: in *OE.*, degeneracy; corruption; moral perversion; depravity.

PRAWN, n. *prawn* [may be connected with Fris. *porn:* comp. O. It. *perna*, a kind of shell-fish; L. *perna*, a sea-mussel]: genera of crustaceans, of order *Decapoda*, sub-order *Macroura*, in general form resembling lobsters, crayfish, and shrimps; but belonging to a family (*Palæmonidæ*) remarkable for a long serrated beak projecting from the carapace. The upper antennæ are terminated by three filaments. There are many species of P., and some in the seas of warm climates attain large size. Many of them are semi-transparent, and exhibit very fine colors; they are very active creatures; and are interesting inmates of an aquarium, but excessively voracious, and apt to make great havoc among its other inhabitants. A number of species are used for food in the United States—among them the Common P. (*Palæmonetes vulgaris*), and, in the south, *Peneus brasiliensis.* The Common P. of the British coast (*Palæmon serratus*), there distinguished from shrimps in popular usage, is generally taken in the vicinity of rocks at a little distance from the shore, and not in rock-pools: it is more esteemed for the table than even the shrimp. Osier-baskets, like those employed for catching lobsters, are used for taking prawns; also nets five or six ft. wide, which are pushed along by means of poles, and are called *Putting Nets.* Two or three species on the coasts of the United States are available for food. One side of the thorax of a P. is often found remarkably distended. This is owing to a parasitic crustacean, *Bopyrus crangorum*, one of the *Isopoda*, lodged under the carapace.

PRAXIS, n. *prăks'ĭs* [Gr. *praxis*, a course of action—from *prattō*, I do or effect any work]: practice; an example or form for practice or improvement.

PRAXITELES, *prăks-ĭt'ė-lēz:* celebrated sculptor of ancient Greece, of whose life nothing is known, except that he was a citizen of Athens, in the 4th c. B.C.; son (and prob. pupil) of the Athenian Cephisodotus. Pliny gives the date B.C. 364 apparently as that in which P. began to be known. His principal works—which have now perished—were: 1. Statues of Aphrodite (at Cos, Cnidus, Thespiæ, Latmian Alexandria, and Rome), of which that of Cnidus was most famous; 2. Statues of Eros (at Thespiæ, and Parium on the Propontis); 3. Statues, single and in groups, from the mythology of Dionysus (at Elis, Athens, Megara, and other places);

4. Statues of Apollo, the best of which was that representing Apollo as the Lizard-slayer. One work from P.'s hand is now known, having been found recently at Olympia. It is a marble statue of Hermes carrying the infant Dionysus. This work is manifestly a youthful product, but shows P.'s subtle mastery and sympathetic expressiveness. So far as we are entitled to form an opinion of the works of P. from descriptions and criticisms by ancient writers, they seem to have marked an epoch in the history of Greece—viz., the transition from the earnest, heroic, and reverential age preceding the Peloponnesian war, to the more corrupt and sensual times that followed it. The sculpture of Phidias is inspired by a profound veneration for the majesty of the gods; that of P. sought to give expression to the looser and less divine conceptions of the national religion. The bewitching beauty of woman, and the intoxication of Bacchic pleasures, were his favorite subjects; but in his treatment of these, he displayed unrivalled sweetness, grace, and naturalness. His gods and goddesses were far from the divine, but they were ideal figures of the fairest earthly loveliness.

PRAY, v. *prā* [F. *prier*, to pray; *prière*, a prayer: It. *pregare*, *preghiera;* L. *prĕcāri*, to beseech, to beg]: to entreat; to ask with earnestness; to supplicate; to address or petition the Supreme Being; to petition, as parliament; to ask with reverence and humility. PRAY′ING, imp.: ADJ. given to prayer. PRAYED, pp. *prād.* PRAY′INGLY, ad. *-lĭ.* PRAY′ER, n. *-ėr*, one who prays: *prär*, earnest and solemn address to God (see below): the form of supplication used; the favor or blessing asked for; earnest entreaty. PRAYERFUL, a. *prär′fûl*, given to prayer; devotional. PRAYER′FULLY, ad. *-lĭ.* PRAYER′FULNESS, n. *-nĕs*, the quality of being prayerful. PRAYER′LESS, a. *-lĕs*, neglecting the duty of prayer to God. PRAYER′LESSLY, ad. *-lĭ.* PRAYER′LESSNESS, n. *-lĕs-nĕs*, the habitual neglect of prayer. PRAYER-BOOK, a book containing printed forms of prayer for public or private use. PRAYER-MEETING, a number of persons met together for making supplication to God; a private meeting for worship. To PRAY IN AID, a term used in a court of justice, when help is called in from another having an interest in the cause. I PRAY, or I PRAY YOU TO TELL ME, a slightly ceremonious form of introducing a question.—SYN. of 'pray': to petition; ask; entreat; request; beseech; supplicate; beg; implore.

PRAYER, *prār:* universally acknowledged part of the worship due to God; a simple and natural expression of dependence, which seems almost necessarily to follow from a belief in the existence of a deity. Accordingly, we find P. both where the object of worship is one Supreme Being and in systems of polytheism. It is also combined with every other part of worship. According to the Christian system, however, P. is not merely the spontaneous approach of man to God in the endeavor to appease His wrath, to win His favor, or to obtain from Him any blessing; but is also an approach warranted, invited, commanded, and waited for, of God as the Father of men: thus the right to approach God with prayer, and the warrant to expect advantage in doing so, rest both on the constitution of the human soul and on the revelation of the Divine will. There is no truth more indisputably taught in the Bible, or more frequently brought into view, both in the Old and in the New Testament, than that God is the *hearer* of prayer.

But a difficulty presents itself, in respect to what may be called the theory of prayer: how can prayer be supposed to influence the Divine mind or will? How can a belief in its power be reconciled with any view of the Divine decrees, from the most absolute doctrine of predestination to the most modified scheme which recognizes the Creator as supreme in the universe? Such questions bring up the same difficulty which attends all other questions of the relations between the human will and the Divine, the freedom of man and the sovereignty of God. But whatever seeming inconsistencies may be implied in speculation concerning them, the necessity and the power of prayer have generally been acknowledged equally by men of most opposite views; and usually with acknowledgment of the inability of the human mind to solve some of the problems which are thus presented to it. The extreme predestinarian includes prayer among the means decreed of God together with the end to which it contributes. And while prayer is regarded by all Christians as of great value in its reflex influence on the feelings of the worshipper, this is scarcely ever stated as its whole value—however important this view of it may be deemed as illustrating the Divine wisdom in making it one of the chief 'means of grace.'

While the difficulty in the philosophy of prayer as related to the Divine decrees is undeniable, another difficulty which has been greatly urged and argued in recent years—to the effect that prayer can be of no profit because it involves a suspension or violation of the laws of nature which is absurd and impossible—is really no *difficulty* at all, though partaking of the universal mystery which invests all functions of man's bodily and spiritual life. No one feels any difficulty with reference to the 'laws of nature' being set aside when the little child *prays* to its father or mother for food, and gets what it would not have gotten had it not thus prayed. The living God has at least as much power over the laws of nature as the human parent has. The deep truth is that, in both these cases of prayer being heard, all natural laws are completely operative and recognized—but each in its appropriate sphere, the mightier laws working through the lower to bring the more desirable result.

Prayer being regarded by Christians as an *ordinance* of God, it follows that they must seek to be guided in prayer by His will, so far as His will has been revealed. It is therefore held by Christians in general, in accordance with their doctrine of the Atonement (q.v.) and of the Intercession (q.v.) of Jesus Christ, that the only access to God is through the mediation of His Son, Jesus Christ, and that prayer must be made in the exercise of faith in Christ. It is held also, in accordance with the doctrine of man's sinful nature, that prayer can be truly made, in faith, and for things agreeable to God's will, only by the help of the Holy Spirit. Prayer, to be acceptable, must be for things agreeable to God's will, as that will has been made known; thus it is to seek primarily the blessings that are spiritual and that concern character; therefore, also, prayer for mere temporal or earthly good must be made in entire submission to God's will; but prayer not only may be, but should be, thus made for temporal or earthly good, since the will of God is clearly revealed to that effect.

Adoration, thanksgiving, and confession of sins, the accompaniments or adjuncts of prayer, are generally regarded as parts of prayer; and prayer, which is strictly mere *petition*, is defined accordingly.

The Prot. churches all hold that prayer is to be made to God alone; the mediation of Jesus Christ and the help of the Holy Spirit being duly acknowledged. But in the Rom. Cath. Church, and to some extent in the oriental churches, prayer of a kind is made also to saints, the Virgin Mary, and angels: see INVOCATION OF ANGELS AND SAINTS: MARIOLATRY.

Prayer, according to Christians in general, must be made not merely in form or words, but from the heart. Accordingly, Protestants hold that prayer ought to be conducted in a language known to the worshippers. The Church of Rome has, on the contrary, maintained the general use of the Latin language, where that language is unknown to most of the worshippers.

According to the Prot. creed, prayer is to be made for all the living—not for believers only, but for unbelievers also.

Prayer for the Dead.—The practice prevails in the Rom. Cath., in the Greek and other oriental churches, of praying for the souls of the deceased, with the intention and expectation of obtaining for them an alleviation of their supposed sufferings after death on account of venial sins, or an alleviation of the penalty of mortal sins, remitted but not fully atoned for during life. The practice of praying for the dead supposes the doctrine of PURGATORY (q.v.), though the converse is not necessarily true. Practically, however, the two may be regarded as forming part of one and the same theory, especially if taken in connection with the doctrine of the Communion of Saints. It being once granted, as the Rom. Cath. system affirms, that such relations subsist between the two worlds as enable their members mutually to assist each other, it then becomes a consequence of the doctrine of purgatory that the living ought to pray for the relief of their suffering brethren beyond the grave. We present an outline of this doctrine and of its history.—It seems certain that some such doctrine existed in most of the ancient religions, especially of Egypt, India, and China. It gives significance to many practices of the Greeks and Romans in reference to their dead. Its existence among the Jews is attested by the well-known assurance in II Maccabees xii., that 'it is a holy and wholesome thought to pray for the dead, that they may be loosed from their sins.' The continued maintenance of the practice among the Jewish race is claimed as plain from their sacred books. Rom. Catholics contend that the doctrine, as well as the practice, is equally recognizable in the early Christian Church. They refer to the parable of Lazarus and the rich man (Luke xvi. 19–31) as evidencing the intercommunion of this earth with the world beyond the grave (though Protestants find no such evidence; and assert that even if evidenced, the fact would not be proof on the specific question at issue); and they refer to Matt. xii. 32 as proving the remissibility of sin or of punishment after death; as well as to I Cor. xv. 29 as attesting the actual practice, among the first Christians, of performing or undergoing certain ministrations in behalf of (Protestants say, in relation to) the dead. The Fathers of the 2d, 3d, and still more of the 4th and following centuries, frequently allude to such prayers, e.g., Clement of Alexandria, Tertullian, St. Cyprian, and especially St. John Chrysostom, Cyril of Jerusalem, and St. Augustine. The liturgies, too, of all the rites without exception contain prayers for the dead; and the sepulchral inscriptions from the catacombs, which range from the 1st till the 5th c., contain frequent prayers in even greater variety, and more directly intercessory, or rather more directly implying release from suffering, than those of the contemporary Jews. In the services of the mediæval and later church, prayers for the dead form a prominent and striking element: see REQUIEM. The Abyssinians have separate services for the dead of all the several conditions and degrees in life, and continue to offer the mass daily for forty days after the death. The Prot. churches—not denying the frequent and widespread usage in various ancient churches—deem prayer for the dead a departure from the teachings of the New Testament; and without exception have repudiated the practice. In the Burial Service of the first Book of Common Prayer, authorized in the Church of England, some prayers for the deceased were retained; but they were expunged from the second Book; and no trace of them is found in that sanctioned under Elizabeth.

PRAYER, WEEK OF: annual season of prayer observed in concert by evangelical churches in many nations. The monthly Monday concert of prayer for Christian missions had been established many years in this country, when, 1832, a circular was issued from Lausanne, Switzerland, inviting Christians everywhere to set apart the first Monday of Jan. as a day of fasting and prayer for the outpouring of the Holy Spirit on the whole world. At the meeting of the Presb. gen. assembly, Philadelphia 1833, a resolution in favor of such observance, proposed by a delegate from the Congl. gen. assoc. of Mass., was adopted. An appeal from the United States to Great Britain 1836 met hearty response. The week of prayer was recommended by the Evangelical Alliance 1846. A special appeal for such a week's observance was moved by Drs. John H. Morison and John Newton, at a Presb. missionary meeting in Lodiana, India, 1858. The week begins the first Sunday in Jan., and the programme of topics for prayer every year is sent forth by the Evangelical Alliance. Foreign missionary societies of the English Church began 1872 to observe Dec. 20 as a day of prayer for missions, changed to St. Andrew's Day 1875.

PRE-, *prē-* [L. *præ*]: a prefix signifying 'before; priority of time, place, or rank; very.'

PREACH, v. *prēch* [F. *prêcher;* Sp. *predicar;* Ger. *predigen*, to preach—from L. *prædĭcārĕ*, to announce or proclaim]: to deliver an address or exhortation on the subject of religion from a pulpit in a church; to declare the gospel message from a selected text of Scripture; to pronounce a discourse or sermon in public; to lecture or give advice too obtrusively, on religious or moral grounds. PREACH′ING, imp.: N. act of one who preaches; a public discourse upon a sacred subject. PREACHED, pp. *prēcht.* PREACH′ER, n. *-ėr*, one who preaches; a minister of the gospel. PREACH′ERSHIP, n. *-shĭp*, the office of a preacher. PREACH′MENT, n. *-mĕnt*, applied contemptuously to discourse having the character of a sermon.

PRE-ADAMIC, a. *prē′ă-dăm′ĭk* [*pre*, before, and *Adam*]: prior to Adam; before Adam existed. PRE-ADAMITES, n. *prē-ăd′ă-mīts*, those who are supposed by some to have lived before Adam (see below): ADJ. used to indicate a high antiquity, especially in reference to the date of the creation of the world or of man. PRE-AD′AMIT′IC, a. *-mĭt′ĭk*, that existed before Adam.

PRE-AD′AMITES: supposed inhabitants of the earth anterior to Adam. The author of the opinion, or at least the writer in whose hands first it took scientific form, was Isaac de la Peyrère, better known by his Latinized name *Pererius* (1594–1676). He was of a Calvinist family of Bordeaux. His theory was made public first 1655, in the form of a commentary on Rom. v. 12–14: this was followed, the same year, by the first part of a formal treatise on the Pre-Adamite hypothesis, and the theological consequences therefrom. According to his hypothesis, Adam was progenitor of the Jewish race only, and it is the history only of him and his race that the Bible is designed to supply. Other races existed on earth before that of Adam; but of them the Bible contains no record, nor did the Mosaic law regard them or impose any obligation on them. It was only under the gospel that they began to be comprehended in the law, which through Christ was given to all the human races of the earth; and it is in this sense that, according to Peyrère, sin is said (Rom. v. 13) to 'have been in the world until the law,' but not to have been 'imputed when the law was not.' For the Pre-Adamite race, inasmuch as the law was not, there was no *legal* offense. The only evil which Peyrère recognized was natural evil. The same limited interpretation he extended to most other details of the Mosaic history. Thus, he regarded the deluge as partial, being confined to the Adamite race. Other miraculous narratives of the Pentateuch and even of other books of the Bible he restricted similarly. As his book was published in the Low Countries, he fell under the animadversion of the Inquisition, and eventually was arrested in the diocese of Mechlin, but was released at the instance of the Prince of Condé. He afterward went to Rome, where he conformed to the Rom. Cath. Chh. and made full retractation of his erroneous opinions. He was offered preferment by the pope, Alexander VII., but returned in preference to Paris, where he entered the seminary of Notre Dame des Vertus, in which he resided till his death. More modern discussion of the antiquity of man has been, of course, approached from a very different point of view, and conducted with quite other arguments: theological discussion of the subject has been learned and ingenious; and scientific discussion, openly discarding all theological considerations, has been abundant. See MAN (ANTIQUITY OF): DESCENT OF MAN: ANTHROPOLOGY: ETC. See also Winchell's *Preadamites, or a Demonstration of Existence of Men before Adam* (Chicago 1880).

PREAMBLE, n. *prē-ăm′bl* [It. *preambolo;* F. *préambule*, a preamble, a preface—from mid. L. *præam′bŭlum*, an introductory notice; L. *præambŭlus*, walking before—from *præ*, before; *ambŭlo*, I walk]: the introduction to a discourse or some writing; the introductory part of a statute, or a bill before parliament, in which the reasons are stated why the law or bill should be passed—the *preamble* commences with the word *whereas:* V. to introduce with previous remarks. PREAM′BLING, imp. PREAM′BLED, pp.

PREAUDIENCE, n. *prē-aw'dĭ-ĕns* [*pre*, before, and *audience*]: right of previous audience; precedence or rank at the bar.

PREBEND, n. *prĕb'ĕnd* [F. *prébende;* It. *prebenda*, a prebend—from mid. L. *præbenda*, the daily portion of food and drink given to an ecclesiastic of the lower ranks; L. *præbens*, giving, furnishing—from *præbērĕ*, to give]: stipend formerly granted to a prebendary of a cathedral out of its estate. **PREBENDAL**, a. *prē-bĕn'dăl*, pertaining to a prebend. **PREBENDARY**, n. *prĕb'ĕn-dėr-ĭ*, one who has a prebend; one who receives a stipend from a cathedral or collegiate church. In England prebendaries are now merely honorary. **PREB'ENDARYSHIP**, n. *-dėr-ĭ-shĭp*, the office of a prebendary.

PREBLE, *prĕb'l*, EDWARD: naval officer: 1761, Aug. 15—1807, Aug. 25; b. Portland, Me.; son of Maj.Gen. Jedediah P. He ran away from home and became a privateersman when 17 years old, and a year afterward was appointed midshipman in the Mass. state navy. In the *Protector* he took part in the attack on the British privateer *Admiral Duff*, and in the Penobscot expedition, wherein he was taken prisoner. On his release from the prison-ship *Jersey*, he was promoted 1st lieut. and assigned to the sloop-of-war *Winthrop*, with which he captured a British armed brig: this command he retained till the close of the war. 1783–98 he engaged in the mercantile marine service. 1798, Feb. 9. he was commissioned lieut. in the newly established federal navy, and 1799, May 15, was promoted capt. and given command of the *Essex*. In her he made a voyage to China and had a fleet of 14 merchantmen placed under his protection. In 1803 he became commander of the frigate *Constitution* and of the fleet assembled to operate against the Barbary States. He secured a renewal of the treaty with the emperor of Morocco and began vigorous operations against Tripoli, when he was relieved by Commodore Barron and returned home. Congress gave him a gold medal and vote of thanks, and Pres. Jefferson offered to place him at the head of the navy dept. 1806, but he declined.

PREB'LE, GEORGE HENRY: naval officer: 1816, Feb. 25—1885, Mar. 1; b. Portland, Me.; nephew of Edward P. He entered the U. S. navy as midshipman 1835; was promoted lieut. 1848, commander 1862, capt. 1867, commodore 1871, and rear-admiral 1876; and was retired 1878. He served against the Seminole Indians in Fla. 1841–2; at the capture of Alvarado, Vera Cruz, and Tuxpan, Mexico; in attacks on Chinese pirates 1854–5; and commanded the *Katahdin* at the capture of New Orleans 1862, and the fleet brigade that co-operated with Gen. Sherman 1864, Nov.—1865, Apr. He was a member of several historical societies and an accomplished writer.

PRE'BLE, JEDEDIAH: 1707–1784, Mar. 11; b. Wells, Me.: soldier. He was a seaman in early life; became capt. of a provincial regt. 1746, lieut.col. 1755, col. 1758, and brig.gen. 1759; served in Winslow's Acadia expedition 1755; was a member of the Mass. general court from Portland (now in Me.) 12 years; appointed councilor 1773, brig.-gen. in the provincial army of Mass. 1774, and maj.gen. (but declined) afterward; and became judge of the court of common pleas 1778 and a state senator 1780.

PRECARIOUS, a. *prĕ-kā'rĭ-ŭs* [L. *precārĭŭs*, obtained by entreaty—from *precor*, I pray: It. *precario:* F. *précaire*]: depending on the will or pleasure of another; depending on unknown or unforeseen causes or events; uncertain; held by no certain tenure. PRECA'RIOUSLY, ad. *-lĭ*. PRECA'RIOUSNESS, n. *-nĕs*, the quality or state of being precarious; dependence on others.—SYN. of 'precarious': uncertain; unsettled; doubtful; insecure; unsteady; equivocal; dubious.

PRECATIVE, a. *prĕk'ă-tĭv*, or PREC'ATORY, a. *-tėr-ĭ* [mid. L. *precatīvus*, obtained by entreaty: L. *prĕcātor*, an intercessor—from *precor*, I pray]: suppliant; beseeching.

PRECAUTION, n. *prĕ-kaw'shŭn* [F. *précaution;* It. *precauzione;* Sp. *precaucion*, precaution, foresight—from L. *præcautĭōnem*—from *pre*, before; *cautĭō*, wariness or circumspection—from *cavĕo*, I take care]: care or caution previously employed to prevent miscarriage, or to secure good: V. to warn or advise beforehand. PRECAU'TIONING, imp. PRECAU'TIONED, pp. *-shŭnd*. PRECAU'TIONAL, a. *-shŭn-ăl*, preventive of mischief. PRECAU'TIONARY, a. *-shŭn-ėr-ĭ*, proceeding from caution; adapted to prevent miscarriage or mischief.

PRECEDE, v. *prĕ-sēd'* [F. *précéder*, to precede—from L. *præcēdĕrĕ*, to precede—from *præ*, before; *cēdĕrĕ*, to go or move: It. *precedere*]: to go before in the order of time; to go before in place, rank, or importance. PRECE'DING, imp. PRECE'DED, pp. PRECEDENT, a. *prĕ-sē'dĕnt* [F.—L.]: going before in time; former; previous. PRECEDENT, n. *prĕs'ĕ-dĕnt*, anything that may serve as an example or rule to be followed in future actions of the like kind; that which has been done before of a like kind; an authority, or a judicial decision to be followed in similar or analogous cases. Precedents are held to establish points of law for subsequent cases presenting like facts: forms of procedure long in use are termed precedents. In judicial action, according to Blackstone, a previous decision is to be followed, except when 'manifestly absurd or unjust.' In accepting as precedent a judicial decision, consideration must be had on various points—among which are 'the justice of its principle and the reasonableness of its application, the time during which it has been unquestioned, the general course of the decisions,' etc. PRECEDENTLY, ad. *prĕ-sē'dĕnt-lĭ*, beforehand. PRECE'DENCE, n. *-dĕns*, or PRECE'DENCY, n. *-dĕn-sĭ*, act or state of going or being before; priority; the right to a more honorable place; adjustment of place; the foremost place in ceremony (see below). **Precedented**, a. *prĕs'ĕ-dĕnt-ĕd*, authorized by an example of a like kind. **Precedence**, n. in *OE.*, priority, something going before; something past.—Syn. of 'precedence': precedency; priority; pre-eminence; preference; antecedence; superiority;—of 'preceding': anterior; antecedent; foregoing; previous; former; prior.

PRECE'DENCE: relative order in which individuals are entitled to have place in a state procession or on other public occasions. Questions of P. are found arising in very early ages both in Europe and in the East. Where such questions have arisen among ambassadors as representatives of different countries, great tenacity has often been shown in supporting the claims to rank of the states represented. In England, the order of P. depends partly on the statute 31 Henry VIII. c. 10, partly on subsequent statutes, royal letters patent, and ancient usages. Among questions of P. depending on usage, there are some which can hardly be considered so settled as to be matter of right, and are in a great degree left to the discretion of the officers of the crown. Formerly, they were adjudicated on by the constable and marshal in the court of chivalry; and since that tribunal has fallen into abeyance, the practice of persons aggrieved in these matters is to petition the crown, which generally refers the disputed question to the officers of arms. In Scotland, the Lyon court has direct jurisdiction in all such questions.

It is a general rule of P. that persons of the same rank follow according to the order of the creation of that rank; and in the P. of the English peerage, it has been fixed that the younger sons of each preceding rank take place immediately after the eldest son of the next succeeding rank. Married women and widows take the same rank among each other as their husbands, except such rank be professional or official; and it is an invariable rule that no office gives rank to the wife or children of the holder of it. Unmarried women take the same rank with their eldest brother; the wife of the eldest son, of any degree, however, preceding the sisters of her husband and all other ladies in the same degree with them. Marriage with an inferior does not take away the P. which a woman has by birth or creation; except that the wife of a peer always takes her rank from her husband. The tables of precedence of different ranks, as recognized by law in England, comprise no fewer than 151 degrees The following are the 10 highest degrees of P. in the list of 91 pertaining to men, 60 others being assigned to women:

The Sovereign.
The Prince of Wales.
Sons of the Sovereign.
Grandsons of the Sovereign.
Brothers of the Sovereign.
Uncles of the Sovereign.
The Sovereign's Brothers' or Sisters' Sons.
The Archbishop of Canterbury, Primate of all England.
The Lord High Chancellor, or Lord Keeper, being a Baron.
The Archbishop of York, Primate of England.

Of this whole authoritative order of P., the criticism is made in England that it is substantially the same as for two or three centuries ago, while political and social arrangements to which it was fitted have been completely transformed; and that while it comprises several dignities which are obsolete, it omits the great majority of members of the govt. in its existing form.

At the coronation of Charles I., the rule of P. of the nobility of England was introduced in Scotland; and it was arranged that peers of England (or their sons, etc.), of a given degree, should within England take P. of peers of Scotland of the same degree; and that this P. should be reversed in Scotland. But by the acts of Union of Scotland and Ireland, the P. in any given degree of the peerage has been established as follows: 1. Peers of England; 2. Peers of Scotland; 3. Peers of Great Britain; 4. Peers of Ireland; 5. Peers of the United Kingdom, and Peers of Ireland created subsequently to the Irish Union.

There are rules for precedence for the members of different professions, recognized among themselves, but which do not confer general social precedence. Doctors in the universities rank thus: 1, of Divinity; 2, of Law; 3, of Medicine.

PRECENTOR, n. *prĕ-sĕn′tėr* [It. *precentore;* F. *précenteur*, a precentor—from L. *præ*, before; *cantor*, a singer—from *canto*, I sing]: leader of a choir or of a congregation in singing: in *Scot.*, the leader of the psalmody in a church, usually provided with a desk below the pulpit: in *Eng. cathedrals*, the official in a chapter, whether cathedral or collegiate (the cleric, canon, or minor canon), who has the regulation of the music. The official by this name formerly commenced the psalm or hymn, which was taken up, and repeated either by the celebrant or another of the body, or by the rest of the choir. In modern chapters, the precentor ranks next in dignity to the provost or dean. PRECEN′TORSHIP, n. the office of a precentor.

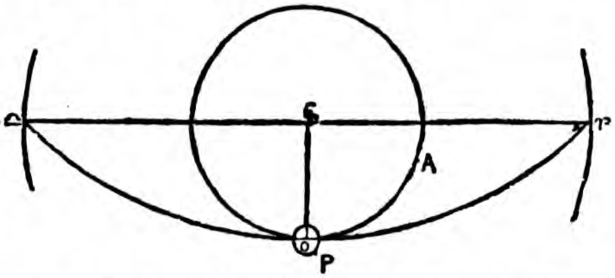
PRECEPT, n. *prē′sĕpt* [F. *précepte*—from L. *præceptum*, a maxim, a precept—from *præ*, before; *capĭō*, I take: Sp. *precepto*]: any authoritative command or rule of action; an injunction; instruction; principle; maxim; a doctrine; a command in writing by a magistrate or a judge. PRECEPTIVE, a. *prĕ-sĕp′tĭv*, containing or giving precepts. PRECEP′TOR, n. *-tėr* [F. *précepteur*—from L.]: a teacher; an instructor. PRECEP′TRESS, n. *-trĕs*, a woman who teaches; the head of a religious house. PRECEPTORIAL, a. *prē′sĕp-tō′rĭ-ăl*, pertaining to a preceptor. PRECEPTORY, a. *prĕ-sĕp′tėr-ĭ*, giving precepts. PRECEP′TIAL, a. *-shĭ-ăl*, in *OE.*, consisting of precepts.—SYN. of ‘precept’: command; order; injunction; mandate; rule; direction; law; doctrine; instruction; principle; maxim.

PRECEPTORIES, n. plu. *prĕ-sĕp′tėr-ĭz* [see PRECEPT]: subordinate religious establishments in the middle ages; the colleges of the Knights Templars; lands or benefices held by the more eminent Knights Templars for the general good of the order—likewise used in the singular. PRECEP-

TOR, among the *Knights Templars*, the head of a religious house. All the preceptories of a province were subject to a provincial superior, called Grand Preceptor; and three of these held rank above all the rest—the grand preceptors of Jerusalem, Tripolis, and Antioch. Other houses of the order were called ' commanderies.'

PRECES, n. plu. *prĕs'ēz* [L. *prex*, prayer; *prĕcēs*, prayers]: in the *Episcopal service*, applied to those alternate petitions which pass conjointly between the priest and the people; the suffrages. *Note.*—The ORATIONES, n. plu. *ŏ-rā'shĭ-ō'nēz*, are the petitions said by the priest alone, the people answering only Amen.

PRECESSION, n. *prĕ-sĕsh'ŭn* [F. *précession*, precession—from mid. L. *prœces'sĭōnem*—from L. *prœ*, before; *cessus*, gone; *cedĕrĕ*, to go: It. *precessione*]: the act of going before. PRECESSION OF THE EQUINOXES, the slow backward movement of the equinoctial points along the ecliptic from east to west, amounting to about 50″ in the year. PRECES'SIONAL, a. *-ŭn-ăl*, pertaining to the precession of the equinoxes.—*Precession of the Equinoxes* may be thus set forth: If the earth were truly spherical and homogeneous; or if it were composed of spherical layers each of uniform density; or, more generally, if it were such that the resultant of the attractions exerted on all its parts by any other body should always pass through a definite point in its mass, its diurnal rotation would not be affected by the attraction of any other bodies. If originally rotating about a principal axis of Inertia (q.v.), it would forever revolve about it, and the direction of the axis would remain fixed in space. To put this in more popular language, the Pole-star (q.v.) would always be the same star. But though the earth rotates about an axis almost exactly coinciding with its axis of figure, the attraction of various bodies, especially the sun and moon, on the oblate portion at the equator, tends to give it a rotation about an axis *in* the plane of the equator; and the combination of these two rotations gives rise to a shifting of the instantaneous axis of rotation in the earth and also in space. The earth's axis of revolution (see NUTATION) describes a waved curve (very nearly circular) about the pole of the ecliptic, and in a direction contrary to that of the order of the signs of the Zodiac (q.v.). This waved curve may be conceived to be described as follows: The pole of the earth, P, revolves in about 19 years in a little ellipse, whose centre, O, travels uniformly in a small circle of the sphere, AO; the centre, E, of the latter is the pole of the ecliptic. The precession is the portion AO of this circle measured from any assumed point, A; and the small arc, OP, by which the true place of the earth's pole differs from its mean place, is the nutation. The nutation is generally resolved along, and perpendicular to, EO; and the components so found are the nutation in ecliptical latitude and longitude. This rough sketch is intended merely to show the *nature* of the phenomenon, for the curve described by P about O is only approximately elliptic. Its greatest radius vector, however, is exceedingly small, amounting to only about 18 *seconds* of arc. AO, also, is not exactly circular, but very nearly so, as its radius, EO, is the *Obliquity of the Ecliptic* (q.v.), which we know varies very little from the angle 23° 28′. The equinoxes, being 90° distant from E, and also from O, which may be taken as the mean place of P, are at ♎ and ♈ in the diagram. And as O moves round E in the reverse order of the signs, so do the equinoxes, and in the same period—viz., 25,868 years. The effect is, of course, that while the earth's pole describes the small circle AO in the heavens about the pole of the ecliptic, the equinoxes make one complete revolution in the ecliptic against the order of the signs. Thus, in turn, all stars lying near the circle A become, each for a time, the *Pole-star* (q.v.). It may seem strange that the term P. should be applied to a retrograde motion; but, from the point of view of the observer, it is evident that the equinox, if on one day it arrive at the meridian of a place simultaneously with a fixed star, will next day arrive at the meridian *sooner* than the star, or will precede it in time of transit; and this is the origin of the term.



The physical explanation of the cause of P. is almost identical with that of the conical motion of the axis of a top about the vertical; the difference between the two being that, in the case of the top, the conical rotation of the axis takes place in the *same* direction as the rotation of the top about the axis, while, in the case of the earth, the pole of the axis turns about the pole of the ecliptic in the *opposite* direction to that in which the earth revolves about its axis. But the circumstances of the earth's motion are easily procured by a modification of the spinning-top, such as that of Troughton (used for determination of latitudes at sea), if the centre of gravity of the whole mass be depressed *below* the point of suspension. If the axis of a top be vertical, there is no P.; similarly, when the sun or moon is in the plane of the equator, no effect is produced by them on the position of the earth's axis. When the axis of the common top is inclined, gravity tends to make it fall over; in similar circumstances, it tends to restore the axis of Troughton's top to the vertical; in either case tending to give the top a rotation about a horizontal axis, perpendicular to that about which it is at the instant rotating; and the effect on the top is to cause a slow conical motion of its axis about the vertical. The sun or moon, in like manner, when not in the plane of the equator, tend to make, by their attraction, the earth turn about an axis perpendicular to that about which it is actually rotating. It is the composition of these rotations which gives rise to P.; but, though it would not be difficult to give a satisfactory investigation of the question without using formidable mathematical methods, the length of such an investigation precludes it here. The simplest approximation to the physical explanation—that originally given by Newton—must suffice. The node of a satellite's orbit (see PERTURBATIONS) tends always to *regrede* on the plane of relative motion of the primary and the disturbing body. Suppose, for an instant, the protuberant parts of the earth at the equator to be satellites, revolving about a *spherical* earth: the effect of the sun's or moon's disturbing force on these satellites would be to make the nodes of their orbits regrede. And exactly the same result will follow if they be attached to the earth, only that the rate of regression will be much slower, as the whole mass of the earth will share in the motion. This is one of the most ingenious of the wonderful series of explanations of celestial phenomena given in the *Principia.*

PRECINCT, n. *prē'sĭngkt* [L. *præcinctus,* girded about, encircled—from *præ,* before; *cinctus,* surrounded; *cingo,* I surround]: the limits or bounds of a district or division; a territorial district; the exterior line encompassing a place; boundary. THE PRECINCTS, the limits; ground attached to an ecclesiastical building.

PRECIOUS, a. *prĕsh'ŭs* [F. *précieux,* precious, valuable: It. *prezioso;* Sp. *precioso*—from L. *pretĭōsus,* of great value—from *prĕtĭŭm,* a price]: of great value; costly; highly esteemed; in *irony,* worthless. PRECIOUSLY, ad. *-lĭ.* PRE'CIOUSNESS, n. *-nĕs,* great value; high price. PRECIOUS METALS, silver and gold—so called from their great value compared to the other metals. PRECIOUS STONES, beautiful and highly prized stones, used in various forms as ornaments for the person: see GEMS.

PRECIPE: see PRÆCIPE.

PRECIPICE, n. *prĕs'ĭ-pĭs* [F. *précipice;* It. *precipizio,* a precipice; L. *præcĭpĭtĭum,* a precipice; *præceps,* head-foremost—from *præ,* before; *caput,* the head]: a steep fall or perpendicular descent of land or rocks; a headlong steep. PRECIPITATE, a. *prĕ-sĭp'ĭ-tāt* [L. *præcĭpĭtātus,* thrown headforemost]: headlong; flowing or falling with a steep descent; overhasty; incautious; headstrong; without due deliberation: N. a substance thrown down from its state of solution in a liquid to the bottom of a vessel, generally in a pulverized form: V. to throw headlong; to fall headlong; to hurry or hasten on blindly or rashly; to urge or press on prematurely; to cause to separate or fall to the bottom, as a substance held in solution by a liquid. PRECIP'ITATING, imp. PRECIP'ITATED, pp. PRECIP'ITATOR, n. *-tėr,* one who precipitates. PRECIP'ITANT, a. *-tănt* [F.—L.]: falling headlong; hasty; rashly or unexpectedly brought on: N. any substance which causes something held in solution by a liquid to fall down in a solid state. PRECIP'ITATELY, ad. *-tāt-lĭ,* headlong; in a hasty manner. PRECIP'ITANTLY, ad.

-tănt-lĭ, with great or unadvised haste. **PRECIPIT′ANCE**, n. *-tăns*, or **PRECIP′ITANCY**, n. *-tăn-sĭ*, rash haste; the forming of an opinion, or executing a purpose, thoughtlessly and rashly. **PRECIP′ITABLE**, a. *-tà-bl*, that may be cast to the bottom, as a substance held in solution. **PRECIP′ITABIL′ITY**, n. *-bĭl′ĭ-tĭ*, the quality or state of being precipitable. **PRECIP′ITA′TION**, n. *-tā′shŭn* [F.—L.]: the act of precipitating; great hurry; tumultuous and blind haste; the operation of throwing down from a liquid a substance held in solution; the process of separating any substance from another (see below). **PRECIP′ITOUS**, a. *-ĭ-tŭs*, headlong; very steep; abrupt; dangerous; hasty; rash. **PRECIP′ITOUSLY**, ad. *-lĭ*. **PRECIP′ITOUSNESS**, n. *-nĕs*, steepness; rash haste. **RED PRECIPITATE**, red oxide or protoxide of mercury. **WHITE PRECIPITATE**, chloride of mercury. *Note.*—When substances held in solution fall down in a solid state, they are called *precipitates;* substances merely suspended in a liquid, as earthy matter in water, which fall or settle down, are called *sediments*—in the former case the operating cause is *chemical*, in the latter *mechanical*.

PRECIPITA′TION, in Chemistry: process in which decomposition occurs in a fluid, either through action of the air, or of a gas, or of a chemical agent in solution; and which is accompanied by deposition of a solid substance previously held in solution. The substance employed to produce the precipitation is called the *precipitant;* and the substance separated by its action, the *precipitate*. E.g., if a solution of carbonate of protoxide of iron be exposed to the air, a precipitate of hydrated sesquioxide or peroxide of iron speedily falls; if a current of sulphuretted hydrogen gas be passed through a solution of acetate of lead, a black precipitate of sulphide of lead is thrown down from the clear and colorless solution; and if a solution of corrosive sublimate (bichloride of mercury) be added to a solution of iodide of potassium, a yellow precipitate of biniodide of mercury is thrown down. The precipitant must be added with caution, as in many cases an excess of it redissolves the precipitate. In qualitative analysis—that is to say, in determining the presence of substances without reference to their quantity—the color, solubility, etc., of the precipitate thrown down by numerous tests, e.g., sulphuretted hydrogen, solutions of nitrate of silver, iodide of potassium, ferrocyanide of potassium, etc., afford the most useful information; and in quantitative analysis, the amount of precipitate thrown down from a given quantity of a solution is often employed to determine the strength of the solution. Thus, if a solution of nitrate of silver is added to an ounce of a solution of hydrocyanic acid of unknown strength, till no further precipitation ensues, it may readily be calculated, from the weight of the white precipitate of cyanide of silver, how much anhydrous hydrocyanic acid was present.

PRÉCIS, n. *prā-sē′* or *prā′sē* [F. *précis*, precise (see **PRECISE**)]: an abridged statement; an abstract; a summary.

PRECISE, a. *prĕ-sīs'* [F. *précis*, precise—from L. *præcīsus*, cut off at the end or extremity—from *præ*, before; *cæsus*, cut—from *cædo*, I cut]: *literally*, cut or trimmed into form; not loose, vague, or uncertain; definite; exact; accurate; correct; nice; scrupulous; formal; particular. PRECISE'LY, ad. *-lĭ*, in a precise manner; nicely; accurately; exactly; in exact conformity to truth. PRECISE'NESS, n. *-nĕs*, the quality of being precise; rigid nicety; exactness. PRECISIAN, n. *prĕ-sĭzh'ăn*, one who limits; one rigidly exact in the observance of rules. PRECI'SIANISM, n. *-ĭzm*, excessive exactness; superstitious rigor. PRECI'SION, n. *-ŭn* [F.—L.]: exact limitation; accuracy; definiteness. ARMS OF PRECISION, the rifles and artillery of modern warfare.—SYN. of 'precise': exact; accurate; correct; strict; nice; particular; punctual; ceremonious; definite; scrupulous; punctilious; formal; finical; not loose; not vague; unequivocal.

PRECLUDE, v. *prĕ-klôd'* [L. *præclu'dĕrĕ*, to shut up, to hinder—from *præ*, before; *claudo*, I shut: It. *precludere*]: to shut out; to hinder from access; to debar; to prevent from happening or taking place. PRECLU'DING, imp. PRECLU'DED, pp. PRECLUSION, n. *prĕ-klô'zhŭn* [L. *præclūsĭo* or *præclusĭōnem*, a shutting or damming up]: the act of shutting out from access or possession; the state of being shut out. PRECLU'SIVE, a. *-sĭv*, tending to shut out; hindering beforehand. PRECLU'SIVELY, ad. *-lĭ.*—SYN. of 'preclude': to hinder; debar; prevent; deprive; prohibit; disqualify; exclude; forbid.

PRECOCIOUS, a. *prĕ-kō'shŭs* [F. *précoce*, precocious—from L. *præcox* or *præcŏcem*, early ripe, premature—from *præ*, before; *coquo*, I cook or boil: It. *precoce*]: ripe in understanding before the usual or proper time; having the mental powers or bodily growth developed at an early age; premature; forward. PRECO'CIOUSLY, ad. *-lĭ*. PRECO'CIOUSNESS, n. *-nĕs*, or PRECŎCITY, n. *prĕ-kŏs'ĭ-tĭ*, the quality or state of being precocious; premature development.—*Precocity* has been regarded as an indication of cerebral disease; and American physicians have not hesitated to identify this manifestation with chronic inflammation of the membranes of the brain. If it is not always, it is often associated with such intense activity of the whole system, and with morbid conditions, such as the scrofulous diathesis, as to usher in actual disease, premature decay, and early death. The decay often consists in mental feebleness and fatuity; or where no such formidable issue follows, in the reduction of what promised to be transcendent genius to commonplace mediocrity. The closing chapters of the history of many wonderful calculators—infant Rosciuses, infant Lyras, etc.—illustrate this. It is hence no mere poetic figure to say that the lamp of the mind feeds on itself, and burns itself out. Yet there are numerous exceptions, such as Johnson, Mozart, Fergusson, Davy, where early genius grew into great and masculine powers. This rapid development in infancy or youth of faculties which are generally the result of protracted growth, and the intuitive acquisition of knowledge, which, under ordinary circumstances, is attained by laborious effort and cultivation, are seen most frequently in those of feeble and delicate constitution and of stunted frame. It is seen often as a concomitant of rickets, as in Pascal, Pope, etc., and with disproportionate size of head. While this development includes marvellous exercise of memory, of imagination, of constructive talent, of artistic genius, it rarely extends to judgment, reasoning, and sagacity. There appears evidence that this quality is not merely morbid, but that it exercises reflexly a detrimental influence on healthful assimilation and growth, and arrests or retards that building up of the organization on which the ultimate capacity of the individual depends. Education sometimes produces such prematurity, or fosters it where it has previously existed; so that the modern form of mental exhaustion, 'the overworked brain,' sometimes originates in the schoolroom. It is necessary in all educational efforts to avoid high pressure and stimulation, to adapt the kind of instruction to the age, strength, and tendencies of the pupils, and to combine systematic physical with all intellectual training.—Brigham, *Remarks on the Influence of Mental Cultivation and Mental Excitement upon Health;* Combe, *On the Management of Infancy;* Caldwell, *Thoughts on Physical Education.*

PRECOGNITION, n. *prē'cŏg-nĭsh'ŭn* [L. *præcognĭtus*, foreknown; *præcognos'cĕrĕ*, to foreknow—from *præ*, before; *cognoscĕrĕ*, to understand; *cognitĭo*, knowledge]: previous knowledge or examination. It is a Scotch legal term denoting the heads or substance of the evidence which a witness in a criminal cause proposes to give at the trial. In all cases, before a trial, it is necessary for the counsel to see the witnesses, and elicit from them the nature of the testimony they can give; and the heads of this testimony, written out, are called the precognitions. P. is technically applied to the preliminary examination of witnesses before a justice of the peace, etc.—corresponding to what in other systems is known as the deposition. PRECOGNOSCE, v. *prē'-kŏg-nŏs'*, to examine witnesses beforehand in order to ascertain whether there be good grounds for prosecuting. PRE'COGNOSC'ING, imp. PRE'COGNOSCED', pp. *-nŏst'*.

PRECONCEIVE, v. *prē'kŏn-sēv'* [*pre*, before, and *conceive*]: to form a previous idea or notion of; to form an opinion beforehand. PRE'CONCEIV'ING, imp. PRE'CONCEIVED', pp. *-sēvd':* ADJ. formed in the mind beforehand. PRE'CONCEP'TION, n. *-sĕp'shŭn*, the act of preconceiving; opinion previously formed.

PRECONCERT, v. *prē'kŏn-sért'* [*pre*, before, and *concert*]: to settle by previous agreement; to plan beforehand. PRECONCERT, n. *prē-kŏn'sért*, a previous agreement. PRE'CONCERT'ING, imp. PRE'CONCERT'ED, pp.: ADJ. settled by concert beforehand. PRE'CONCERT'EDLY, ad. *-lĭ*.

PRECONTRACT, v. *prē'kŏn-trăkt'* [*pre*, before, and *contract*]: to contract or bargain beforehand: N. *prē-kŏn'trăkt*, a contract previous to another.

PRECORDIUM, n. *prē-kŏr'dĭ-ŭm*, **PRECOR'DIA**, n. plu. *-dĭ-ă* [L. *præ*, before; *cor*, the heart—gen. *cordis*]: the region of the chest which lies in front of the heart; parts about the heart. **PRECORDIAL**, a. *prē-kŏr'dĭ-ăl*, of or relating to the precordia.

PRECURSOR, n. *prĕ-kĕr'sėr* [L. *præcursor*, one who runs before—from *præ*, before; *cursus*, run; *currĕrĕ*, to run: It. *precursore:* F. *précurseur*]: he or that which precedes an event to indicate its approach; a forerunner; an omen or token; a sign. **PRECUR'SORY**, a. *-sėr-ĭ*, indicating something that is coming.—SYN. of 'precursor': harbinger; messenger; forerunner; predecessor; sign; omen.

PREDACEOUS, a. *prĕ-dā'shŭs* [L. *præda*, plunder, booty: It. *predace*, rapacious]: living by prey; predatory. **PREDA'CEAN**, n. *-shĭ-ăn*, a carnivorous animal: ADJ. living by prey. **PREDAL**, a. *prē'dăl*, pertaining to prey; practicing plunder. **PREDATORY**, a. *prē'dă-tėr-ĭ*, or *prĕd'ă-* [L. *prædatōrĭus*, plundering]: plundering; pillaging; rapacious. **PRE'DATORILY**, ad. *-lĭ*.

PREDECEASE, v. *prē'dē-sēs'* [*pre*, before, and *decease*]: to die before some other person: N. the death of one before another. **PRE'DECEAS'ING**, imp. **PRE'DECEASED'**, pp. *-sēst'*.

PREDECESSOR, n. *prē'dĕ-sĕs'sėr* [F. *prédécesseur*, a predecessor—from mid. L. *prædecessō'rem*—from L. *præ*, before; *decessor*, he who withdraws or retires, as from the province he has governed; *decedo*, I depart—from *de*, away; *cedo*, I go: It. *predecessore*]: one who has preceded another in the same office, place, or business; in *OE.*, an ancestor.

PREDESIGN, v. *prē'dĕ-zīn'* [*pre*, before, and *design*]: to design or purpose beforehand. **PREDESIGNA'TION**, n. *-shŭn*, in *logic*, a sign, symbol, or word expressing logical quantity.

PREDESTINATE, v. *prĕ-dĕs'tĭn-āt* [L. *prædestinātus*, determined beforehand—from *præ*, before; *destinārĕ*, to determine: It. *predestinare:* F. *prédestiner*]: to appoint beforehand by unchangeable purpose; to foredoom; to preordain: ADJ. in *OE.*, for predestinated. **PREDES'TINATING**, imp.: ADJ. indicating predestination. **PREDES'TINATED**, pp.: ADJ. predetermined; foreordained. **PREDES'TINATOR**, n. *-ā-tėr*, one who predestinates. **PREDES'TINA'RIAN**, n. *-tĭn-ā'rĭ-ăn*, one who holds the doctrine of predestination: ADJ. pertaining to or consisting in predestination. **PREDES'TINA'RIANISM**, n. *-ăn-ĭzm*, the system or doctrines of the predestinarians. **PREDES'TINA'TION**, n. *-ā'shŭn* [F.—L.]: the act of foreordaining; the predetermination of God; the doctrine or belief that God has decreed by immutable purpose whatsoever comes to pass—especially in regard to man, and that He has elected some to everlasting life by Jesus Christ (see below). **PREDESTINE**, v. *prĕ-dĕs'tĭn*, to decree beforehand. **PREDES'TINING**, imp. **PREDES'TINED**, pp. *-tĭnd:* ADJ. determined by predestination.—SYN. of 'predestinate': to predetermine; foreordain: preordain; decree, predestine; foredoom.

PREDESTINA'TION, in Theology: the eternal decree of God, whereby 'the elect' are foreordained to salvation. The correlative decree, whereby in some schemes of theology others are held to be foreordained to perdition (though capable of being included under the same term), is commonly distinguished by the term Reprobation.

Predestination, like Election (q.v.)—as in some sense a *fact* rising into view out of the eternal mystery of the spiritual universe—appears in the Scriptures; and finds a basis also in the fact of the existence of an all-wise, all-powerful, and eternal God. But its development from a mysterious fact into the terms of a precise theological definition had its origin in the attempts to frame a system of theology which should logically define the relations of the human and the Divine will, and reconcile the phenomena of human freedom with the belief in Divine omnipotence. Any such attempt is essentially rationalism—in this case a profound, reverent, and intellectually superb rationalism; but rationalism still. It is an attempt not to *apprehend* infinite facts as real and as practically bearing on men, but to *comprehend* them in the compass of human philosophy. God's absolute will is represented by it as determining the eternal destiny of man, not according to the foreknown character of those whose fate is so determined, but ultimately according to God's own mere choice. They who are thus foreordained to eternal life are led to believe and live by the 'irresistible grace' of the Holy Spirit. In human salvation, therefore, *God's* will is everything; *man's*, nothing. It was in the discussions between Pelagius and Augustine that the Predestinarian view of the Divine 'decree' was first fully evolved; and since their time, opinion in the church has run in two great currents—one perpetuating, with various modifications, the influence of Pelagius, who regarded that decree as subordinated to the Divine foreknowledge of human character; the other, that of Augustine, who maintained the absolutism of that decree, its independence of all prior human conditions, and (by inference, if not by direct statement) its irreversibleness by human action. Pelagius recognized a possibility of good in human nature; Augustine denied any such possibility, apart from the influences of Divine grace. The one held that the choice of salvation lay in man's will; the other, that man's will had no active freedom or power of choice since the fall. In 529 the system of Augustine was established by the Council of Arausio (Orange) as the rule of orthodoxy in the Western Church; but the reaction against the strictly logical yet essentially *un*moral and extra-scriptural nature of his dogma has been perpetually manifested in every period of the church by representatives of the more humane, though perhaps less logical doctrine of Pelagius. In the days of the schoolmen, the discussions of the Scotists and Thomists; after the Reformation, the contests leading to the condemnation of Arminius in the Council of Dort, and the now slowly decreasing separation that has long divided the disciples of Calvin from those theologians who hold broader and freer views of the *atone-*

ment—indicate the impossibility of either the human reason or conscience ever resting satisfied with a merely and absolutely logical theory of the relations between the will of God and the moral responsibility of man. These relations take hold of the infinite; and while infinite facts can be fully evidenced to man, profoundly recognized, and made a mighty basis of action and character, they cannot be measured or definitely framed in man's best systems of logic. The tendency of modern inquiry seems to be to abandon the discussion of a point so obviously incapable of being determined by human intelligence, and to pursue, instead, examination into the moral and practical bearing on our human conditions and actions of that which we are able to learn concerning God and His will. The moral meaning of that will is of vital moment to men; the extent of its power over their own wills, and the exact grounds and processes of its influence, they apparently cannot determine.

PREDETERMINE, v. *prē'dĕ-tėr'mĭn* [*pre*, before, and *determine*]: to settle in purpose; to determine beforehand. **PRE'DETER'MINING**, imp. **PRE'DETER'MINED**, pp. *-mĭnd.* **PRE'DETER'MINATE**, a. *-mĭ-nāt,* determined beforehand. **PRE'DETER'MINA'TION**, n. *-mĭ-nā'shŭn,* purpose formed beforehand. **PRE'DETER'MINABLE**, a. *-nă-bl,* that may be determined or settled beforehand.

PREDIAL, a. *prē'dĭ-ăl* [It. *prediale;* F. *prédial*, predial —from L. *prædĭum*, an estate]: consisting of lands or farms; attached to lands, or pertaining to them.

PRED'ICABLES: term in the scholastic logic connected with the scheme of classification. There were five designations employed in classifying objects on a systematic plan: *genus, species, difference* (differentia), *property* (proprium), and *accident* (accidens). The first two—Genus and Species—name the higher and lower classes of the things classified; a Genus comprehends several Species. The other three designations—Difference, Property, Accident —express the attributes on which the classification turns. The Difference is what distinguishes one species from others of the same genus—e.g., the peculiarities wherein the cat differs from the tiger, etc. The Property expresses a distinction not ultimate, but a consequence of some other peculiarity. Thus, 'the use of tools' is a property of man, and not a difference, for it flows from other assignable attributes of his bodily and mental organization, or from the specific differences that characterize him. The Accident is something not bound up with the nature of the species, but incidentally present in it—e.g., the high value of gold is an Accident; gold would still be gold and of excellent use though it were plenty and cheap.

It was by an arbitrary and confusing employment of the notion of predication that these various items of the first attempt at a process of systematic classification were called Predicables, or attributes that might be 'predicated,' that is, affirmed, of things. All that is needful to affirm is that a certain thing belongs to a given species or genus; and that to belong to the species is to possess the specific differences; and to belong to the genus is to possess the generic differences. We may also, if we please, *affirm* (or predicate) that the thing does belong to the species, or does possess the specific difference; but this power of affirming has no need to be formally proclaimed, or made the basis of the scheme.

The allied term 'Predicament' is another case where an abusive prominence is given to the idea of predication. The Predicaments, or Categories, were the most comprehensive classes of all existing things—under such heads as substance, attribute, quantity, quality, etc.; and it could be predicated of anything falling under one head that it does so fall under. Thus 'virtue' is an attribute; and therefore we might say that 'attribute' can be *predicated* of 'virtue.' But the notion of predicating does not indicate the main fact of the process in this case, any more than 'predicable' in the foregoing. *Classification*, and not predication, is the ruling idea in each.—See PROPOSITION.

PREDICATE, v. *prĕd'ĭ-kāt* [L. *prædicātus*, made publicly known, declared; *prædĭco*, I declare—from *præ*, before; *dicārĕ*, to proclaim: It. *predicato*, a predicate]: to affirm one thing of another; to affirm: N. that which is affirmed or denied of the subject (see PROPOSITION). PRED'ICATING, imp. PRED'ICATED, pp. PRED'ICA'TION, n. *-kā'shŭn* [F.—L.]: the act of affirming one thing of another (see PREDICABLES). PRED'ICA'TORY, a. *-tėr-ĭ*, affirming. PRED'ICANT, n. *-kănt*, one who affirms anything. PRED'ICABLE, a. *-kă-bl* [It. *predicabile;* F. *prédicable*]: that may be affirmed or said of something; that may be attributed to: N. in *logic*, one of the five things that can be affirmed of anything (see PREDICABLES). PRED'ICABIL'ITY, n. *-bĭl'ĭ-tĭ*, the quality of being predicable or affirmable of something. PREDICAMENT, n. *prĕ-dĭk'ă-mĕnt*, particular situation or state; bad position; in *logic*, one of the general heads or classes under one or other of which all the terms may be arranged—viz., substance, quantity, quality, relation, place, time, situation, possession, action, suffering (see also PREDICABLES). PRE'DICAMEN'TAL, a. *-mĕn'tăl*, pertaining to a predicament.—SYN. of 'predicament': plight; category; condition; state; situation;—of 'predicate, v.': to affirm; declare; assert.

PREDICT, v. *prĕ-dĭkt'* [L. *prædic'tus*, mentioned beforehand, foretold—from *præ*, before; *dīco*, I say or tell]: to tell beforehand, as something that is to happen; to foretell. PREDICT'ING, imp. PREDICT'ED, pp.: ADJ. told before the event. PREDICT'OR, n. *-ėr*, one who predicts. PREDIC'TION, n. *-dĭk'shŭn* [F.—L.]: a declaration of a future event; a prophecy. PREDIC'TIVE, a. *-tĭv*, foretelling; prophetic.—SYN. of 'predict': to foretell; prophesy; prognosticate; forebode; presage; bode; foreshow; augur; divine; vaticinate.

PREDILECTION, n. *prē-dĭ-lĕk'shŭn* [F. *prédilection*, preference—from L. *præ*, before; *dilectus*, chosen, beloved; *dilĭgo*, I love]: a preference; affection or liking beforehand; prepossession of mind in favor of.

PREDISPOSE, v. *prē'dĭs-pōz'* [F. *prédisposer: pre*, before, and *dispose*]: to incline beforehand. PRE'DISPO'SING, imp.: ADJ. creating a tendency to anything or an adaptation for it. PRE'DISPOSED', pp. *-pōzd'*. PRE'DISPOSI'TION, n. *-pō-zĭsh'ŭn* [F.]: the state of being predisposed; previous inclination or propensity; previous adaptation to any change or impression, as of the body to disease.

PREDOMINATE, v. *prĕ-dŏm'ĭ-nāt* [L. *prœ*, in a high degree; *domĭnor*, I am lord and master; *domĭnātus*, absolute rule—from *domĭnus*, a lord: It. *predominare;* F. *prédominer*, to predominate]: to surpass in strength, influence, or authority; to be ascendant; to prevail; to rule over. PREDOM'INATING, imp. PREDOM'INATED, pp. PREDOM'INANT, a. *-nănt*, having superior influence, strength, or authority; superior; prevailing; supreme in influence; ruling. PREDOM'INANTLY, ad. *-lĭ*. PREDOM'INANCE, n. *-năns* [F.], or PREDOM'INANCY, n. *-năn-sĭ*, superiority over others in power, influence, or authority.—SYN. of 'predominant': prevailing; prevalent; ruling; superior; ascendant; reigning; overruling; controlling.

PRE-EMINENT, a. *prē-ĕm'ĭ-nĕnt* [F. *prééminent*—from L. *prœ-emĭnen'tem*, surpassing: *pre*, before, and *eminent*]: superior in excellence; surpassing others, sometimes in a bad sense. PRE-EM'INENTLY, ad. *-lĭ*. PRE-EM'INENCE, n. *-ĭ-nĕns* [F.—L.]: distinction in something excellent; superiority, as in rank or dignity; surpassing, as in evil.

PRE-EMPTION, n. *prē-ĕm'shŭn* [*pre*, before; L. *emptus*, bought. F. *préemption*]: act or right of purchasing before others.

PREEN, n. *prēn* [Scot. *prein* or *preen*, a pin: Dut. *priem*, a bodkin: Icel. *prjonn*, a pin]: a forked instrument used in dressing cloth: V. to clean as with a preen—said of birds that dress and oil their feathers with their beaks. PREEN'ING, imp. PREENED, pp. *prēnd*.

PRE-ENGAGE, v. *prē'-ĕn-gāj'* [*pre*, before, and *engage*]: to engage by previous contract; to attach by previous influence. PRE-ENGAG'ING, imp. PRE-ENGAGED', pp. PRE-ENGAGE'MENT, n. a prior engagement.

PRE-ESTABLISH, v. *prē'-ĕs-tăb'lĭsh* [*pre*, before, and *establish*]: to settle or establish beforehand. PRE'-ESTAB'LISHING, imp. PRE'-ESTAB'LISHED, pp.: ADJ. settled beforehand. PRE'-ESTAB'LISHMENT, n. a settlement beforehand.

PRE-ESTAB'LISHED HARMONY: see LEIBNITZ.

PRE-EXILIC, a. *prē-ĕgz-ĭl'ĭk:* before the Babylonian exile or captivity of the Jews.

PRE-EXIST, v. *prē'-ĕgz-ĭst'* [F. *préexister: pre*, before, and *exist*]: to exist before something else; to exist previously. PRE'-EXIS'TING, imp.: ADJ. previously existing. PRE'-EXIS'TED, pp. PRE'-EXIS'TENT, a. existing beforehand or before something else. PRE'-EXIS'TENCE, n. *-tĕns* [F.]: existence in some former state, as some believe the soul to have existed before its union with the body; existence before something else.

PRE-EXIST'ENCE, Doctrine of: theory or notion that human souls were in existence before the generation of the bodies with which they are united in this world. This notion was anciently, and is still, widely spread throughout the East. The Greek philosophers too, especially those who held the doctrine of Transmigration (q.v.), as the Pythagoreans, Empedocles, and even Plato—if with him pre-existence is not simply a symbolical myth—were familiar with the conception. Among some early Christians, the assumption of such pre-existence was connected with the belief that God had created the souls of men before the world, and that these were united with human bodies at generation or at birth. Subsequently, the followers of this opinion were termed *Pre-existencists*, to distinguish them from the *Traducianists*, who held that children received soul as well as body from their parents. Modern *Creationists*, as opposed to Traducianists, hold that the soul is created by act of God (not generated by parents); but this they hold without necessarily affirming pre-existence of souls. Direct intellectual interest in the doctrine of pre-existence has greatly decreased in modern times; yet the dream—for whether true or false, it is and can be nothing but a dream in our present state, and with our present capabilities of knowledge—has again and again haunted individual thinkers, and even finds its way indirectly, and as a scarcely noted hint, into philosophic systems of the universe. Wordsworth has given poetical expression to it in his famous ode—*Intimations of Immortality from Recollections of Early Childhood*:

Our birth is but a sleep and a forgetting.
  The soul that rises with us—our life's star,
Hath had elsewhere its setting,
  And cometh from afar.
Not in entire forgetfulness,
And not in utter nakedness,
But trailing clouds of glory do we come
From God, who is our home.

One of the recent schemes of philosophy in Germany—that of the younger Fichte—has revived the doctrine; while it forms the basis of one of the deepest works in modern theology—Müller's *Christian Doctrine of Sin.* A belief in pre-existence in some form is common to various theosophic systems or sects: see Theosophy: Mysticism.

PREFACE, n. *prĕf'ās* [F. *préface*, a preface—from L. *præfātĭo*, an introduction—from *præ*, before; *fātus*, spoken; *fāri*, to speak]: introductory or explanatory remarks at the commencement of a book; an introduction: V. to introduce by preliminary remarks; to say something by way of introduction. **Pref'acing**, imp. **Pref'aced**, pp. *-āst.* **Pref'atory**, a. *-ă-tėr-ĭ*, pertaining to a preface; introductory. **Pref'atorily**, ad. *-lĭ.*—Syn. of 'preface, n.': preamble; introduction; proem; prelude; prologue.

PREFECT, or **Præfect**, n. *prē'fĕkt* [L. *præfectus*, overseer, director—from *præ*, before; *factus*, made; *facĕrĕ*, to make: F. *préfet*, a prefect]: title applicable to various Roman functionaries. The most important was the *Præfectus urbi*, or warden of the city, whose office existed at an early period of Roman history, and was revived under Augustus, with new and greatly extended authority, including all powers necessary for maintenance of peace and order in the city, and an extensive jurisdiction civil and criminal. The *Præfectus prætorio* was commander of the troops that guarded the emperor's person.—In France, P. is the supt. of a dept. of the republic: see PRÉFET. PRE'FECTSHIP, n. office of prefect. PREFECTURE, n. *prē'fĕk-tūr*, office or jurisdiction of a prefect.

PREFER, v. *prĕ-fér'* [F. *préférer*—from L. *præferrĕ*, to carry in front—from *præ*, before; *fero*, I bear or bring: It. *preferire*]: to honor or esteem above another; to esteem or like more than something else; to advance or promote, as to office or dignity; in *law*, to put forward or exhibit formally, as a charge; to offer; to present. PREFER'RING, imp. PREFERRED', pp. *-férd'*. PREFERMENT, n. *prĕ-fér'-mĕnt*, advancement to a higher office or dignity; an ecclesiastical benefice. PREFERABLE, a. *prĕf'ér-ă-bl* [F.]: worthy to be preferred; more desirable or excellent; of better quality. PREF'ERABLY, ad. *-blĭ*. PREF'ERABLENESS, n. *-bl-nĕs*, the quality or state of being preferable. PREF'ERENCE, n. *-ĕns* [F.]: the act of preferring; the choice or estimation of one thing rather than another; state of being preferred. PREF'EREN'TIAL, a. *-ĕn'shăl*, giving or having a preference. PREF'EREN'TIALLY, ad. *-lĭ*. PREFERENCE SHAREHOLDER, the holder of stock of a public company entitled to the first dividends. PREFERENCE STOCK, the stock entitled to dividends before the ordinary stock of a company.—SYN. of 'prefer': to select; elect; choose; offer; present; address; advance; raise; exalt; set above; honor before.

PRÉFET, *prā-fā':* important magistrate in modern France, so called from his exercising functions somewhat similar to those of the *Præfectus urbi* at Rome (see PREFECT). In old times, the officers whose duty it was to superintend details of administration in the French provinces were called *Maîtres des Requêtes*. Under Henry II., their office was rendered permanent; and at a later period, their powers were much extended, and they were known by the designation *Intendants*. The intendants were abolished at the Revolution; and a law of 1800 first appointed préfets for the departments, with powers greatly similar to those of the intendants. The office, as it now exists, includes superintendence of the police establishment, enforcement of the laws, and entire control of administration of the departments. The préfet is the head of the executive, exercises most of the govt. patronage, including the appointment of a *sous-préfet* for each *arrondissement*, and in time of tumult may call out the military, or provisionally declare a state of siege. The chief check on these extensive powers is in the *Conseil de la Préfecture*, which acts in some measure as a court of appeal from the decisions of the préfet.

PREFIGURE, v. *prē-fĭg'ūr* or *-ėr* [It. *prefigurare;* Sp. *prefigurar*, to prefigure—from L. *præ*, before; *figūro*, I figure, I imagine: F. *figurer*, to figure, to typify]: to show in antecedent types or similitudes; to foreshadow. PREFIG'URING, imp. PREFIG'URED, pp. *-ūrd*. PREFIG'UREMENT, n. *-ūr-mĕnt*, the act of prefiguring; that which is prefigured. PREFIG'URA'TION, n. *-ū-rā'shŭn*, the act of showing by types or similitudes.

PREFIX, v. *prĕ-fĭks'* [F. *préfix*, prefixed—from L. *præfixus*, fixed or fastened before—from *præ*, before; *fixus*, fastened or fixed; *figo*, I fix]: to put or place at the beginning of something else; to settle; to appoint beforehand: N. *prē'fĭks*, a syllable or particle put at the beginning of a word to modify its meaning. PREFIX'ING, imp. PREFIXED, pp. *prĕ-fĭkst':* ADJ. fixed beforehand.

PREFLORATION, n. *prē-flō-rā'shŭn* [prefix, *pre*, before; *flos* or *florem*, a flower]: another term for æstivation.

PREFOLIATION, n. *prē-fō-lĭ-ā'shŭn* [prefix, *pre*, before; *fōlĭum*, a leaf]: another term for vernation.

PREFORM, v. *prē-fawrm'* [*pre*, and *form*]: in *OE.*, to form beforehand. PREFORM'ING, imp. PREFORMED, pp. *-fawrmd*.

PREFORMATIVE, a. *prē-fawrm'ă-tĭv* [L. *præ*, before, in front; Eng. *formative*]: in *anat.*, applied to the fine pellucid homogeneous membrane which covers the entire pulp of the tooth.

PREGEL, *prā'ghĕl*: river of Prussia, rising in the province of E. Prussia, where it is formed by union of the Pissa and the Angerap, near Insterburg. It flows w. past Welhau and Königsberg, and, after a course of more than 90 m., enters the Frisches Haff, about six m. below Königsberg. The P. is navigable even at Insterburg; and at Königsberg is 720 ft. broad. Its principal tributaries are the Alle from the s., and the Inster from the n. The canal of Deine connects it with the Kurisches Haff.

PREGNABLE, a. *prĕg'nă-bl* [OF. *pregnable;* F. *prenable*, that can be taken; *prendre*, to take—from L. *prehendĕrĕ*, to take]: that may be taken by assault; that may be moved or convinced.

PREG'NANCY, CONCEALMENT OF: in England, by the statute of 21 James I. 27, a ground for legally presuming the mother guilty of murder if her new-born illegitimate child is found dead. The mother who had concealed her pregnancy and the birth of such bastard child was required to prove by at least one witness that it had been born dead; else she was presumed guilty of having murdered it.—At present, both in England and in the United States, women indicted for the murder of their illegitimate children are tried by the same rules of evidence and presumption that obtain in other trials of murder.

PREGNANT, a. *prĕg'nănt* [L. *prægnans* or *prægnan'tem*, with child, pregnant—from *præ*, forth; *gignĕrĕ*, to beget: It. *pregnante*]: being with child; breeding; fruitful; teeming; implying more than what is actually expressed;

suggestive; in *OE.*, easy to produce or admit anything; free; kind. PREG'NANTLY, ad. *-lĭ*, in a pregnant manner; fruitfully; in *OE.*, fully; plainly; clearly. PREG'NANCY, n. *-năn-sĭ*, state of a female with child; fertility. PREG'NANCE, n. *-năns*, in *OE.*, state of being impregnated; inventive power. PREG'NANT CONSTRUC'TION, n. in *rhet.*, a construction in which more is implied than is said or seems; e.g., 'the beasts trembled from their dens,' that is, came forth trembling from their dens.

PREHENSILE, a. *prĕ-hĕn'sĭl* [L. *prehen'do*, I lay hold of; *prehensus*, laid hold of]: adapted for seizing or laying hold, as the hands, or the tails of some monkeys. PREHEN'SIBLE, a. *-sĭ-bl*, that may be seized. PREHEN'SION, n. *-shŭn* [F.—L.]: a seizing or grasping, as with the hand.

PREHNITE, n. *prĕn'īt* [after Colonel *Prehn*, the discoverer]: mineral, composed chiefly of silica, alumina, and lime, the silica sometimes about 50 per cent. of the whole; but with small and variable proportions of peroxide of iron, peroxide of manganese, potash, soda, and water. It is widely diffused, and, though discovered first at the Cape of Good Hope, has been found in great beauty in some places on the continent of Europe and in Scotland. P. exhibits great variety of forms, with considerable variety of color; being found in crystals in fan-shaped and cockscomb-like groups, granular, reniform, fibrous, etc. It is colorless, or more frequently greenish, and sometimes yellowish. See JADE.

PREJUDGE, v. *prĕ-jŭj'* [F. *préjuger: pre*, before, and *judge*]: to judge and determine in a cause before it is heard; to condemn beforehand, or unheard. PREJUDG'ING, imp. PREJUDGED', pp. PREJUDG'MENT, n. the act of prejudging; decision without a hearing or full examination.

PREJUDICATE, v. *prĕ-jô'dĭ-kāt* [L. *præjudĭcātus*, judged or decided beforehand—from *præ*, before; *judĭco*, I judge]: to prejudge; to form a judgment beforehand, or without due examination of the facts and evidence. PREJU'DICATING, imp. PREJU'DICATED, pp. PREJU'DICA'TION, n. *-kā'shŭn*, the act of judging without due examination of the facts and evidence.

PREJUDICE, n. *prĕj'ū-dĭs* [F. *préjudice*—from L. *præjudĭc'ĭŭm*, disadvantage, prejudice—from *præ*, before; *judicium*, a judgment; *judĭco*, I judge]: a previous inclination of mind, formed without regard to evidence; bias; prepossession; damage or injury: V. to bias or prepossess the mind; to injure or impair. PREJ'UDICING, imp. PREJ'UDICED, pp. *-dĭst:* ADJ. biased; prepossessed by opinions formed without due examination. PREJ'UDI'CIAL, a. *-dĭsh'ăl*, hurtful; injurious; disadvantageous; tending to obstruct or impair. PREJ'UDI'CIALLY, ad. *-lĭ* PREJ'UDI'CIALNESS, n. *-nĕs*, the state of being prejudicial.—SYN. of 'prejudice, n.': prepossession; hurt; prejudgment; bias; harm; damage; detriment; mischief disadvantage.

PRELATE, n. *prĕl′āt* [F. *prélat*, a prelate—from L. *prælātus*, carried in front—from *præ*, before; *latus*, carried: It. *prelato*, a prelate]: an ecclesiastical dignitary, having authority over other clergymen, as an archbishop, a bishop, etc. In church law, a prelate is a holder of one of those higher dignities in the church, to which, of their own right, is attached a proper jurisdiction, not derived by delegation from any superior official. In this sense, the name comprises not only prelates of the first class, as bishops, but also the heads of religious orders, abbots or priors of religious houses, and similar ecclesiastical dignitaries. These, for the most part, are privileged to wear the insignia of the episcopal rank. In the Roman court, many of the officials, though not possessing episcopal or quasi-episcopal jurisdiction, have the insignia and the title of prelate. They are of two classes—the higher, called *del mantelletto* ('of the little mantle'), and the secondary, called *del mantellone* ('of the great mantle'), from the robe which they respectively bear. PREL′ATESHIP, n. the office of a prelate. PRELATIC, a. *prĕ-lăt′ĭk*, or PRELAT′ICAL, a. *-ĭ-kăl*, of or relating to a prelate, or to prelacy. PRELAT′ICALLY, ad. *-lĭ*. PRELATIST, n. *prĕl′ă-tĭst*, an advocate of episcopacy. PREL′ATISM, n. *-tĭzm*, the belief in and advocacy of episcopacy. PREL′ATURE, n. *-tūr*, the rank, office, or dignity of a prelate. PREL′ACY, n. *-sĭ*, episcopacy; the order or dignity of bishops.

PRELECT, v. *prĕ-lĕkt′* [L. *prælec′tor*, a lecturer; *prælĕgo*, I explain to others—from *præ*, before; *legĕrĕ*, to read]: to read a lecture or discourse in public. PRELECT′ING, imp. PRELECT′ED, pp. PRELEC′TOR, n. *-tėr*, one who prelects; a lecturer. PRELECTION, n. *prĕ-lĕk′shŭn*, a lecture or discourse read to students, or in public.

PRELIMINARY, a. *prĕ-lĭm′ĭ-nėr-ĭ* [F. *préliminaire*, preliminary—from L. *præ*, before; *līmen*, a threshold: It. *preliminare*]: that precedes the main discourse or business; introductory; preparatory: N. that which precedes the main discourse or business; something preparatory; introduction. PRELIM′INARIES, n. plu. *-nėr-ĭz*, all introductory arrangements. PRELIM′INARILY, ad. *-lĭ*.—SYN. of 'preliminary, a.': introductory; preparatory; proemial; prior; previous; precedent; prefatory.

PRELUDE, n. *prĕ′lūd* or *prĕl′ūd* [F. *prélude*, a prelude—from L. *prælud′ĕrĕ*, to rehearse—from *præ*, before; *ludo*, I play: It. *preludio*]: short musical flourish or voluntary played before the piece to be performed: the overture, intended to awaken the attention of the audience; generally smooth and flowing, and consisting of a short motivo which is kept throughout; or it may be composed of a succession of harmonies uninterrupted or connected by passages. It is in the same key with the piece which it is to introduce, and to which it is a preparation. Thence, P. is applied generally to anything introductory; something which indicates a future event. PRELUDE, v. *prĕ-lūd′*, to precede; to introduce a piece of music with a voluntary movement; to serve as an introduction to. PRELU′DING, imp. PRE-

LU'DED, pp. PRELU'DER, n. *-dėr*, one who preludes. PRELUSIVE, a. *prĕ-lū'sĭv*, or PRELU'SORY, a. *-sėr-ĭ* [L. *prælūsus*, practiced beforehand, rehearsed]: introductory; indicating that something of a like kind is to follow. PRELU'SIVELY, ad. *-sĭv-lĭ*, or PRELU'SORILY, ad. *-sėr-ĭ-lĭ*, introductorily.—SYN. of 'prelude, n.': introduction; overture; preface; preliminary; harbinger; forerunner.

PREMATURE, a. *prē'mă-tūr* [F. *prématuré*—from L. *prœmatūrus*, too early, untimely—from *præ*, before; *matūrus*, ripe: It. *prematuro*]: ripe before the natural or proper time; happening, arriving, or done before the proper time; arriving or receiving without reliable evidence to authenticate, as a report; too early; too hasty. PRE'MATURELY, ad. *-lĭ*. PRE'MATURENESS, n. *-nĕs*, or PRE'MATUR'ITY, n. *-ĭ-tĭ*, the quality of being premature; ripeness before the natural or usual time.

PREMAXILLARY, a. *prē'măks-ĭl'ėr-ĭ* [L. *præ*, before; *maxilla*, a jaw]: in *anat.*, applied to a bone of the upper jaw, forming its margin, anterior to the true maxillary bone.

PREMEDITATE, v. *prĕ-mĕd'ĭ-tāt* [L. *præmedĭtātus*, thought over—from *præ*, before; *medĭtor*, I muse over: It. *premeditare:* F. *préméditer*]: to muse over or think on beforehand; to consider or revolve in the mind beforehand. PREMED'ITATING, imp. PREMED'ITATED, pp. PREMED'ITA'TION, n. *-tā'shŭn* [F.—L.]: the act of meditating beforehand; previous contrivance or design formed in the mind.

PREMIER, n. *prē'mĭ-ėr* or *prĕm'ĭ-ėr* [F. *premier*, first, chief—from L. *primārĭus*, chief, principal—from *prīmus*, first]: first; chief: N. in *Eng.*, the first or chief minister of state; the prime minister. PRE'MIERSHIP, the office of prime minister.

PREMILLENNIAL, a. *prē'mĭl-lĕn'nĭ-ăl* [*pre*, before, and *millennial*]: previous to the millennium.

PREMISS, n. *prĕm'ĭs* [F. *prémisses*, the premises—from L. *præmissa sententia*, a premiss; *præmissus*, sent before—from *præ*, before; *missus*, sent; *mitto*, I send]: a first or antecedent proposition. PREM'ISSES, n. plu. *-ĭs·ĕz*, first two propositions of a Syllogism (q.v.) from which the conclusion or inference is drawn. PREMISES, *prĕm'ĭs-ĕz*, common legal term to signify a house or building, and the outhouses and places belonging to it, all of which are treated as one thing. It denotes also a certain part of a deed, which is further sub-divided into the form, date, parties, recitals, testatum, and parcels. The use of the word in this sense is derived from the subject-matter of a conveyance or deed being first stated or described in full, and afterward referred to collectively as the premises.—*Premises* denotes also the foregoing statements, or facts previously mentioned. PREMISE, n. *prĕm'ĭs*, a proposition whose acceptance leads to acceptance of another proposition called a conclusion; a supposition or condition: V. *prĕ-mīz'*, to speak or write as introductory to the main subject; to explain or offer previously; to lay down as first propositions on which the subsequent ones are based. PREMI'SING, imp. PREMISED', pp. *-mīzd'*. *Note.*—Spelling of PREMISE, PREMISS: *Premiss* is the proper form, but *Premise* is the form most in use.

PREMIUM, n. *prē'mĭ-ŭm* [L. *præmĭŭm*, profit derived from booty—from *præ*, before; *emĕrĕ*, to buy: It. *premio*, a reward, a premium]: a reward or recompense; a prize offered for some specific thing; value above the original cost or price, as of shares or stock; bonus; the sum paid to an office for insurance, as against fire, or to indemnify for losses of any kind; anything which acts or is given as an incentive.

PREMOLAR, n. *prē-mō'lėr* [*pre*, before, and *molar*]: a tooth between the canine and molars; a grinding tooth which has taken the place of another that has been shed—the *molars* are new teeth which had no representatives in the child.

PREMONISH, v. *prĕ-mŏn'ĭsh* [L. *præmon'ĭtus*, forewarned—from *præ*, before; *monĕo*, I warn]: to forewarn. PREMON'ISHING, imp. PREMON'ISHED, pp. *-ĭsht*. PREMON'ITIVE, a. *-ĭ-tĭv*, or PREMON'ITORY, a. *-ĭ-tėr-ĭ*, giving previous warning or notice; foretokening. PREMON'ITOR, n. *-ĭ-tėr*, one who or that which gives warning beforehand. PREMONITION, n. *prē'mō-nĭsh'ŭn*, previous notice or warning.

PREMONSTRATENSIAN, *prē-mŏn-stra-tĕn'shan* (or NORBERTINE, *nawr'bėrt-ĭn*), OR'DER: religious order, anciently among the most numerous and powerful of the monastic bodies of Germany, in which country its most important houses were established. It was founded in the early part of the 12th c. by St. Norbert, native of Xanten, in the diocese of Cleves, of which church he was a canon. Struck by the prevailing irregularities and carelessness, not only of secular, but also of conventual life among the clergy and monks, he resolved on attempting reform of both, and obtained permission, 1120, to found a cloister in the diocese of Laon, France. The place selected by him was a spot in the forest of Coucy, pointed out, as he believed, in a vision, thence called *Pré Montré*, or, in Latin, *Pratum Monstratum*, 'the indicated meadow,' from which the order was named. In accordance with the double object which he sought to attain, Norbert organized his new order, which was substantially that of the Canons Regular of St. Augustine, as well with a view to the sanctification of the members, as to their usefulness in effecting the reformation of the age. Himself a man of remarkable piety and austerity of life, his rule is a return to the primitive fervor of the monastic institute; and the great work which he proposed for his brotherhood, in addition to the daily choral services of the church, was the practical instruction of the people, and the direction of consciences in the confessional. It was taken up with ardor, and spread rapidly in France and the Low Countries, and afterward—on Norbert's being chosen, 1127, abp. of Magdeburg—in Germany; the abbot of the mother-house at Coucy, however, retaining the rank of general and of superior of the entire order. It does not seem at any time to have made much progress, or at least to have established many houses, in Italy or Spain. In the same spirit of reformation, Norbert established an order of nuns, which attained equal success. In the end of the 15th c., the P. O. had no fewer than 1,500 convents of men, and 500 of women, nearly all in France, Germany, and the northern kingdoms. A relaxation of the institute having taken place, there was a movement in the order (1573) similar to that which, in the Franciscan Order (q.v.), led to the reform of the so-called conventual Franciscans; but the reformed communities in the P. institute remained united with the older body; and 1630 the reformed rule was accepted by all in common. The order, however, has gradually fallen in popularity. In France, its numbers had declined very much even before the Revolution. Since that event, it may be said to have disappeared, except in Germany and Austria, where some magnificent though thinly peopled houses of the order are still maintained.

PREMORSE, a. *prĕ-mŏrs'* [L. *præ*, before; *morsus*, bitten—from *mordĕo*, I bite]: in *bot.*, applied to a root terminating abruptly, as if bitten off.

PRENCE, *prĕnss* (or PRINCE), THOMAS: 1601–1673, Mar. 29; b. England: Plymouth pilgrim. He came to America on the *Mayflower*; signed the compact of 1620, Nov. 11; settled at Nausett; and was gov. of Plymouth colony 1634–38 and 1657–73, and asst. 1635–37 and 1639–57. He governed impartially and was active in promoting the religious and educational interests of the colony.

PRENOMINATE, a. *prē-nŏm'ĭ-nāt* [L. *præ*, before; *nominātus*, named]: in *OE.*, forenamed.

PRENTICE, n. *prĕn'tĭs:* a contraction for APPRENTICE, which see.

PRENTICE, *prĕn'tĭss*, GEORGE DENISON 1802, Dec. 18—1870, Jan. 22; b. Preston, Conn.: journalist. He began teaching while a boy; graduated at Brown Univ. 1823; followed journalism while studying law; and was admitted to the bar 1829, but never practiced. In 1825 he became editor of the *Connecticut Mirror*, and 1828 of the *New England Weekly Review;* and 1830 removed to Louisville, Ky., where in the following year he became editor of the *Louisville Journal.* In his hands this periodical was made one of the most noted and powerful organs of the whig party. He supported the Union during the civil war, though frequently opposing the acts of the administration. He continued his connection with the *Journal* till after the close of the war, and published numerous poems, *Life of Henry Clay* (1831), and *Prenticeana: Wit and Humor* (1859).

PREN'TISS, Benjamin Mayberry: soldier: 1819, Nov. 23; b. Belleville, Wood co., Va. (now W. Va.). In 1841 he settled in Quincy, Ill., having previously removed with his parents from Va. to Mo. He served in the Mexican war as adjt. and capt. of vols., distinguishing himself at Buena Vista. At the beginning of the civil war he was commissioned col. of the 7th Ill. regt., and soon was made brig.gen., commanding at Cairo and in s. Mo. He was with Grant at Shiloh, 1862, Apr., where with nearly all of his command he was taken prisoner, and was not released until the following Oct. On Nov. 29 he was made maj.gen. of vols. He commanded at Helena, Ark. when it was attacked 1863, July 3, by Gen. Holmes and Gen. Sterling Price, and defeated them.

PREN'TISS, Elizabeth Payson: author: 1818, Oct. 26—1878, Aug. 13; b. Portland, Me.; daughter of Edward Payson, D.D. She was educated at Ipswich Seminary, afterward teaching in Portland and elsewhere. In 1845 she married the Rev. George L. Prentiss, who became pastor of the Church of the Covenant (Presb.), New York, and afterward prof. in Union Theol. Seminary, New York. Her best known work, first published in the *Advance* of Chicago, is *Stepping Heavenward*, which in book form was translated into other languages and had an extraordinary sale. Other of her works are *The Flower of the Family* (1854); *Only a Dandelion* (1854); *Fred, Maria, and Me* (1868); *The Percys* (1870); *The Home at Greylock* (1876); *Pemaquid, a Story of Old Times in New England* (1877); and, published after her death at Dorset, Vt., *Avis Benson, and Other Sketches* (1879).

PREN'TISS, Sergeant Smith: 1808, Sep. 30—1850, July 1; b. Portland, Me.: lawyer and orator. He graduated at Bowdoin College 1826; was admitted to the bar and settled in Vicksburg 1829; and entered political life 1835, when he was elected to the state legislature. In 1837 he was elected to congress, but was unseated by the casting vote of Speaker James K. Polk, who favored his democratic opponent. In the following year he was re-elected by a majority that could not be questioned. He opposed the movement for repudiating the Miss. state bonds, and when the act was accomplished 1845, felt so keenly the dishonor on the state that he removed to New Orleans, where he resided till his death. In his early practice he showed marked fondness for criminal law and became widely known for his power as a jury lawyer. After settling in New Orleans he turned his attention to civil law, and was rapidly attaining eminence in this branch also, when he died. He had a highly dramatic style of speaking, and many of his addresses are regarded as masterpieces of impassioned oratory. He died at Longwood, near Natchez.

PRENZLAU, or **PRENZLOW**, *prĕnts'low:* town of Prussia, province of Brandenburg; on the n. shore of the lower Lake Ucker, 71 m. n.n.e. of Berlin. It contains a mineral spring, several baths, and, among its churches, the beautiful Gothic *Marienkirche,* one of the most remarkable brick buildings in the country; date 1325–40. The people carry on several manufactures, but are engaged chiefly in growing tobacco and corn, and in breeding and trading in cattle. Here, 1806, Oct., a body of 16,000 Prussian troops, under the Prince of Hohenlohe, surrendered, after the defeat of Jena, to the French under Murat.—Pop. (1880) 16,933.

PREOCCUPY, v. *prē-ŏk'kū-pī* [*pre,* before, and *occupy:* F. *préoccuper*, to preoccupy]: to take possession of before another; to prepossess. **PREOC'CUPYING**, imp. **PREOC'CUPIED**, pp. *-pīd:* ADJ. engaged or buried in thought. **PREOC'CUPANCY**, n. *-păn-sĭ*, or **PREOC'CUPA'TION**, n. *-pā'shŭn* [F.—L.]: the right of taking possession before others; prior occupation; prepossession. **PREOC'CUPANT**, n. *-pănt,* one who.

PREORDAIN, v. *prē'ŏr-dān'* [*pre,* before, and *ordain*]: to appoint beforehand; to predetermine. **PRE'ORDAIN'ING**, imp. **PRE'ORDAINED'**, pp. *-dānd'*. **PREORDINATION**, n. *prē-ŏr'dĭ-nā'shŭn,* the act of foreordaining. **PREOR'DINANCE**, n. *-dĭ-năns,* in *OE.*, antecedent decree; first decree.

PREPAID: see under **PREPAY**.

PREPARE, v. *prĕ-păr'* [F. *préparer*—from L. *præpărārĕ*, to make ready beforehand—from *præ*, before; *păro,* I make or get ready: It. *preparare*]: to make ready for some particular purpose or service; to fit; to adapt; to qualify; to equip; to put things in suitable order; to take necessary previous measures. **PREPAR'ING**, imp. **PREPARED'**, pp. *-pārd':* ADJ. ready; adapted; made suitable. **PREPAR'ER**, n. *-ėr,* one who prepares. **PREPAR'EDLY**, ad. *-lĭ*, in *OE.*, by proper measures taken beforehand. **PREPAR'EDNESS**, n. *-nĕs,* state of being in readiness. **PREPARATION**, n. *prĕp'ă-rā'shŭn* [F.—L.]: the act or operation of preparing; the thing prepared; state of being ready; previous measures; part of an animal body, usually a diseased part, prepared and preserved for observation and instruction; in *OE.*, ceremonious introduction; accomplishment; qualification. **PREPARATIVE**, a. *prĕ-păr'ă-tĭv,* tending to prepare or make ready; having the power of preparing or fitting: N. that which has the power of preparing. **PREPAR'ATIVELY**, ad. *-lĭ.* **PREPAR'ATORY**, a. *-tėr-ĭ,* previously necessary; introductory; preliminary. **PREPARE**, n. in *OE.*, preparation; previous measures.—SYN. of 'prepare': to qualify; form; make fit; adjust; adapt; equip; provide.

PREPAY, v. *prē-pā'* [*pre,* before, and *pay*]: to pay beforehand, as the postage of a letter. **PREPAY'ING**, imp. **PREPAID**, pp. *prē-pād'*, paid in advance. **PREPAYMENT**, n. *prē-pā'mĕnt,* payment in advance.

PREPENSE, a. *prĕ-pĕns'* [L. *præ*, before; *pensus*, weighed—from *pendĕrĕ*, to weigh]: preconceived; premeditated, as, in *malice prepense:* V. in *OE.*, to weigh or consider beforehand.

PREPOLLENT, a. *prĕ-pŏl'lĕnt* [L. *præpol'lens* or *præpollen'tem*, exceeding or surpassing in power—from *præ*, before; *pollĕo*, I am strong or powerful]: having superior gravity or power; prevailing. **PREPOL'LENCE**, n. *-lĕns*, or **PREPOL'LENCY**, n. *-lĕn-sĭ*, prevalence; prepollent character.

PREPONDERATE, v. *prĕ-pŏn'dėr-āt* [L. *præponderārĕ*, to be of greater weight—from *præ*, beyond; *pondĕro*, I weigh—from *pondus*, a weight: It. *preponderare*]: to exceed in weight; to outweigh; to exceed in influence or power; to incline to one side. **PREPON'DERATING**, imp. **PREPON'DERATED**, pp. **PREPON'DERANT**, a. *-dėr-ănt* [F.—L.]: exceeding in weight; having superior power, weight, or influence. **PREPON'DERANTLY**, ad. *-lĭ*. **PREPON'DERANCE**, n. *-ăns* [F.—L.], or **PREPON'DERANCY**, n. *-ăn-sĭ*, superiority of weight, power, or influence. **PREPON'DERA'TION**, n. *-ā'shŭn*, the act or state of outweighing.

PREPOSITION, n. *prĕp'ŏ-zĭsh'ŭn* [F. *préposition*, a preposition—from L. *præpositĭōnem*, that which is put before —from *præ*, before; *posĭtus*, put or set; *pono*, I place: It. *preposizione*]: in *gram.*, one of a class of words which express the various relations subsisting between verbs, nouns, and pronouns, and are nearly always placed before the words that they govern (see below). **PREP'OSI'TIONAL**, a. *-ŭn-ăl*, pertaining to a preposition; having the nature or office of a preposition. **PREP'OSI'TIONALLY**, ad. *-lĭ*. **PREPOSITIVE**, a. *prĕ-pŏz'ĭ-tĭv*, put before: N. a word or particle put before another word. **PREPOS'ITOR**, n. *-tėr*, generally *prĕ-pŏs'tėr*, one set over others; in a school or college, a provost—i.e., a scholar chosen by his master to inspect his fellow-scholars. **PREPOSITURE**, n. *prĕ-pŏz'ĭ-tūr*, a provostship.

PREPOSI'TION: word expressing certain relations between ideas—between the idea of an action and the idea of a thing, or between the idea of one thing and the idea of another thing: e.g. 'The river runs *to* the sea. The glass stands *on* the table. The dog lies *under* the table. He runs *round* me. She runs *from* me. The house *by* the wood. The house *in* the wood.' In all the instances just given, the relation is of one kind—that of place or direction. And this was the original signification of all prepositions. They gradually, however, came to express other relations. Thus: 'That depends *on* you. Subjects are *under* the sovereign. Vice springs *from* idleness. Wood is consumed *by* fire. Your enemy is *in* your power.' The transition from the palpable, physical relation to the more abstruse mental relation is, in most cases, obvious.

A P. is distinguished from an adverb by its always requiring an object (a noun or pronoun) after it. In the sentence, 'He runs *about*,' *about* is an adverb describing the mode of running; in 'He runs *about* the house,' *about* is a P. referring the direction of the running to a particular object.

Many relations are expressed by *prepositional phrases;* as, *instead of*, *with regard to*, *apart from*. The preposition *beside* is evidently an abbreviation of such a phrase—*by the side of*. This tendency in phrases to become simple prepositions, is manifest in other cases. Instead of the full expression, 'on this side of the river,' we often hear, 'this side the river,' where *this-side* has the force of a P., and may yet come to be written *thisside*.

Of the relations expressed in the modern forms of the Aryan tongues by prepositions, a great many were expressed formerly by cases: see DECLENSION: INFLECTION: PHILOLOGY.

With prepositions are classed certain particles, which, though they may not stand by themselves and govern a case, are yet used in composition with verbs in the same way as the prepositions proper; as in *out*run, *re*place.

The simple prepositions (Eng. *in*, Dan. *i*, Lat. *in*, Gr. *en;* Eng. *on*, Gr. and Goth. *ana*, Ger. *an*, Slav. *na;* Eng. *of*, Goth. *af*, O.H. Ger. *aba* or *apa*, Ger. *ab*, Skr. *apa*, Gr. *apo*, Lat. *a*, *ab;* Eng. *by* [be], Goth. *bi*, Ger. *bei*, Gr. *epi*, Skr. *abhi;* etc.) belong to the primary or radical words of language. They are often identical with the pronominal roots (see PRONOUN), and with them form a class of roots whose primary signification is position or relation in space. All attempts, like those of Tooke, to make them derivatives from verbs, are futile. On the contrary, verbs and other parts of speech are often derived from prepositions; e.g., *utter* from *out; open* and *upper* from *up*. Some prepositions have a derivative form, as *after* (from the root of *of*), Lat. *inter* (*in*); others are compounded of two prepositions, or a P. and prepositional particle; e.g., *upon*, *but* (i.e., by out, or be out), *before*, *within*, *into*. Other prepositions contain a noun, as *against* (AS. *ongegen*, or *tô gegnes;* where, from the forms in the allied languages, the element *gegen* is clearly a substantive, the primary meaning of which, however, has not been made out); *among* (AS. *gemang* or *ongemang*, *gemang* meaning primarily mixture); *between* (i.e., by or be, two or twain). Such prepositions as *during*, *except*, were originally participles used absolutely; thus, 'during the war' = the war during or lasting, i.e., while the war dured or lasted; 'except this' = this excepted (*hoc excepto*).

The study of the etymological relations of prepositions is instructive, as showing how near to one another often lie the most opposed meanings. They are, as it were, the opposite poles of one and the same conception—correlatives depending on a common ground relation, and are thus naturally expressed by words that are radically the same. Thus, Eng. *up* corresponds to Goth. *uf*, Skr. *upa*, Gr. *hypo*, Lat. *sub*. The meaning of *up* is motion from below to above, leaving, however, the idea of the upper terminus the more prominent; *uf*, *hypo*, *sub*, on the contrary, are used to express *under;* but that the notion of upward motion lurked in these roots, is clear from such Latin compounds as *suspicio*, to look up (from below) at a thing; *sustineo*, to hold up (from beneath); and it required only a slight modification—a kind of comparison—to convert them into *ufar*, *hyper*, *super*, meaning 'above'—a result which the English attains by adding the preposition *on* (upon). The same principle is copiously exemplified in the numerous forms and derivatives of the prepositional root FR, in Skr., Gr., Lat., and Sl., PR, in which motion or removal from the speaker in the front direction seems the ground idea. Thus, when in reference to any epoch, we speak of the events that have *pre*ceded and those that are *pre*dicted as to come, the same particle *pre* points in two opposite directions.

PREPOSSESS, v. *prē′pŏz-zĕs′* [*pre*, before, and *possess*]: to have or take previous possession of; to preoccupy the mind or heart of; to bias; to prejudice. PRE′POSSESS′ING, imp.: ADJ. tending to secure favor; raising a favorable opinion beforehand; having qualities that give a favorable and pleasing impression. PRE′POSSESSED′, pp. *-zĕst′*, inclined previously to favor. PRE′POSSESS′INGLY, ad. *-lĭ*. PRE′POSSES′SION, n. *-zĕsh′ŭn*, prior occupation; preconceived opinion; the effect of previous impressions on the mind or heart.—SYN. of 'prepossession': bent; bias; prejudice; prejudgment; inclination; preoccupancy; propensity; proneness; tendency.

PREPOSTEROUS, a. *prĕ-pŏs′tėr-ŭs* [L. *præpostĕrus*, unseasonable, absurd—from *præ*, before; *postĕrus*, coming after: It. *prepostero*]: *literally*, having that first which ought to be last; contrary to nature or reason; absurd; monstrous. PREPOS′TEROUSLY, ad. *-lĭ*. PREPOS′TEROUSNESS, n. *-nĕs*, the quality or state of being preposterous; inconsistency with nature or reason; absurdity.—SYN. of 'preposterous': absurd; foolish; irrational; perverted; wrong; monstrous.

PREPUCE, n. *prē′pūs* [F. *prépuce*, the prepuce—from L. *præpūtĭum*, the foreskin]: the membranous or cutaneous fold covering the glans penis; the foreskin.

PRE-RAPHAELITISM, *prē-răf′ā-ĕl-īt′ĭzm* [*pre*, before]: denoting a style of pictorial art which preceded the age of Raphael, born 1483, the great principle of which is said to consist in going to nature and carefully delineating the features of natural objects. PRE-RAPH′AELITE, a. *-ā-ĕl-īt*, pertaining to this style of art: N. one who favors this style of art. PRE-RAPHAELITES, *prē-răf′ā-ĕl-īts*, name given to a British school of painting, dating about 40 years since. It signified a return to something like a painstaking copying of nature, as in some of the masters before Raphael, or as in those who neglected beauty for the sake of some kind of truth; hence it was a departure from the poetic ideal, likewise from the later conventional 'academic' style, which, in landscape, e.g., once prompted the criticism, 'Where is your brown tree?' as if that were necessary to every complete landscape. The new movement, however, probably grew out of a general revolt against the traditional in everything, and especially from sympathy with the growing scientific spirit, which, later, has had its caricature in the more or less of prosy, vulgar realism in the department of fiction. No doubt it was helped on by the bold originality of Turner, and his faithful statement of many natural facts, though his great pictures were idealistic. It was certainly much aided by Ruskin's insistence on truth in art; and it was commended by him for its earnest and scientific spirit. It became a craze with many young artists on both sides of the sea, and fell into much contempt: the rule to paint what one sees, without selection or sentiment, was followed too literally. But the pictures of such leaders of the movement as Holman Hunt (q.v.), Millais (q.v.), and Dante Gabriel Rossetti, were a wholesome innovation.

PREREQUISITE, a. *prē-rĕk'wĭ-zĭt* [*pre*, before, and *requisite*]: previously required: N. something previously necessary.

PREROGATIVE, n. *prĕ-rŏg'ă-tĭv* [F. *prérogative*—from L. *prærogatīva*, preference, prerogative—from *præ*, before; *rogārĕ*, to ask: It. *prerogativa*]: an exclusive or peculiar right or privilege; the special rights or powers of a sovereign. PREROG'ATIVELY, ad. *-lĭ*. PREROGATIVE-COURT, in *England*, anciently the court wherein all wills were proved, and administrations taken out; so called because it belonged to the prerogative of the abp. to take charge of these matters, which formerly fell under ecclesiastical superintendence. This jurisdiction was taken away 1858 from the ecclesiastics, and transferred to a new court called the Probate Court (q.v.).—SYN. of 'prerogative': privilege; right; claim; demand.

PRESA, n. *prā'za* [It., taken or caught]: in *mus.*, a character or mark used generally in continuous fugues or canons to mark the point of entry for the voices or instruments; a lead.

PRESAGE, n. *prĕs'āj* [F. *présage*, presage—from L. *præsāgĭum*, presentiment, a foreboding—from *præ*, before; *sāgĭo*, I perceive quickly or keenly]: something that foreshows or points out a future event; a presentiment; a foreboding: V. *prĕ-sāj'*, to forebode; to indicate by some present fact what may follow; to prophesy; to utter a prediction. PRESAG'ING, imp.: ADJ. foreshowing. PRESAGED', pp. *-sājd'*. PRESAG'ER, n. *-ėr*, one who or that which presages. PRESAGE'FUL, a. *-fûl*, foreboding; prophetic.—SYN. of 'presage, n.': augury; omen; prognostic; token; sign; presentiment; prophecy.

PRESBURG, *prĕs'bûrc̆h:* county in Hungary, founded by Lower Austria and the Hungarian cos. Neutra, Komaree, and Wieselberg; 1,664 sq. m.; cap. Presburg. It has considerable marshland, but the soil in general is very fertile, producing wheat, hemp, corn, tobacco, potatoes, lemons, oranges, plums, and other fruit. The co. is drained by the Danube river and traversed by the Carpathian Mountains. Horses and cattle are extensively raised for domestic use and export; a fine grade of marble is quarried; and the mineral springs in the co. are widely esteemed for medicinal properties. The second city in importance in the co. is Tyrnau, which has considerable trade and numerous manufactories.—Pop. of county (1870) 297,377.

PRES'BURG (Lat. *Posonium;* Magyar, *Pozsony;* Slav. *Pressburek*): town in the extreme w. of Hungary, near the frontier of Lower Austria; on the left or n. bank of the Danube, 41 m. by railway e. of Vienna. The neighboring hills are clothed with vineyards. It was long the principal city of Hungary, having been made the cap. 1541, when the Turks seized possession of Buda; and even as late as the last quarter of the 18th c., it was the most beautiful, and the most populous town in the kingdom; but when Joseph II., 1784, restored to Buda its ancient dignity of being the cap. of Hungary, and the scene of the coronation of its kings, the prosperity of P. began to wane. Fully one-half of the inhabitants are German, and German is the prevalent language. The most notable buildings in the town are the (Gothic) cathedral, in which the kings of Hungary were crowned; the royal palace, a vast square structure overlooking the town, accidentally burned 1811, and not since repaired; the Capuchin, Franciscan, and Ursuline monasteries, with beautiful churches attached; the Land-Haus (Hall of the Hungarian Diet), etc. The transit-trade by steam-boat and railway, especially in corn, is very great, and gives animation to an otherwise quiet place. P. has manufactures of silks, woolens, leather, paper, tobacco, glass, and chemical products. Outside the town is the 'King's Hill' (*Königshügel*), to which the sovereigns of Hungary were wont to ride after their coronation, and brandish their sword toward the four quarters of the heavens, signifying by that symbolic act that they would defend Hungary from danger—come whence it might. A treaty was concluded here between Napoleon and the Austrian emperor—known as the 'Treaty of Presburg'—1805, Dec. 27, in virtue of which Austria ceded Venice to France, and the Tyrol to Bavaria.—P. gives name to a 'county.'—Pop. of city (1880) 48,006, of whom more than two-thirds were Rom. Catholics, about 10,000 Lutherans, and 7,000 Jews.

PRESBYOPIA, n. *prĕs'bĭ-ō'pĭ-ă* [Gr. *presbus,* old; *ōps,* or *ōpa,* the eye]: in *med.*, a defect of vision in old persons, who, by flattening of the lens, see near objects less distinctly than those at a distance.

PRESBYTER, n. *prĕs'bĭ-tėr* [Gr. *presbutĕros*, an elder, a presbyter—from *presbus*, old, venerable]: an elder; a priest or minister; a member of a presbytery (see below). **PRES'BYTE'RIAN**, n. *-tē'rĭ-ăn*, one of a sect of Christians belonging to a church ruled by presbyters; one who upholds that system of church govt.: ADJ. pertaining to or consisting of presbyters; also **PRES'BYTE'RIAL**, a. *-tē'rĭ-ăl*. **PRES'BYTE'RIANISM**, n. *-rĭ-ăn-ĭzm*, form of church govt. by presbyteries or by elders (see below). **PRES'BYTERY**, n. *-tėr-ĭ*, in a Christian church, a company of elders or presbyters (see PRESBYTER). Specifically, in the Church of Scotland or other Presb. churches, a judicatory consisting of the clergymen of several adjoining parishes and one representative lay elder for each parish church, who all possess equal power and rank in their official capacity. In *Scotch law*, a presbytery is also an ecclesiastical division of the country, including a combination of territorial parishes, varying from 4 to 30: see SCOTLAND, CHURCH OF. In a *church edifice*, the space between the altar and the easternmost stalls of the choir: the name is extended sometimes to the whole choir. **PRES'BYTERSHIP**, n. the office or station of a presbyter.

PRES'BYTER, or ELDER: title of an office or dignity, as of leader, in the Jewish synagogue; applied also in a similar sense in the Christian Church under the apostles; specifically applied in episcopal churches to the second grade in the ministry—between deacon and bishop. In the latter sense, the title has been the occasion of protracted controversy as to the respective claims of the Bishop (q.v.) and the Presbyter, which, except historically, is out of place in these pages. The word P. is frequent in the Epistles and the Acts of the Apostles; and in more than one of these passages it is certainly applied to persons whose office seems in all respects the same as that claimed for the 'bishop' in the episcopalian theory. From this identity of name, the identity of office has been inferred; thence it has been concluded that the distinction of bishops and presbyters is a human and post-apostolic ordinance. Advocates of the episcopal theory admit that the name P. is occasionally given, both in Scripture and in the early church writers, to persons who bore the office of bishop (*episcopos*), and that the latter certainly was in all cases a P.; but they contend that besides being a P., he was something more and something higher. That the office of Timothy, e.g., was superior to that of a P., is inferred from the apostle Paul's instruction to him (I Tim. v. 19) as to how he should receive testimony against a P. The same is inferred concerning the office of Titus, from Titus i. 5. Meanwhile, no example, it is affirmed, appears of a P. sitting in judgment on a bishop, or 'appointing bishops in every city.' But the advocates of congregational and presbyterial polities do not admit the validity of these arguments, inasmuch as they assert the identity of P. (or elder) and bishop, and the right of co-presbyters both to judge a brother and to ordain to the office of the ministry. Indeed, in all mission-fields of these churches, presbyters are continually ordaining native converts to be presbyters in newly gathered churches. Episcopalians rely strongly, however, on the apostolic Fathers, and those of the third and fourth c. Among the apostolic Fathers, Clement of Rome, and more plainly, Ignatius (q.v.) of Antioch, point to the bishop's superiority as already established; and these are followed by Tertullian, Irenæus, Clement of Alexandria, and Cyprian. On the presbyterian side, a remarkable passage is quoted from Jerome, in which, while repressing the pretensions of deacons to equality with presbyters, he appears to place the P. on the same level with the bishop in all functions of the ministry except the power of ordination. The explanation of this passage, according to the episcopalian view, is found in what has been already indicated by the community of name (bishop and presbyter or elder) which existed even in the primitive times; while they rely also on the difference between the two implied in the very important exception which even Jerome admits, in this very passage —viz., the power of ordaining. The offices of both P. and bishop, according to the Rom. Cath. theory, belong, though in different degrees, to what Rom. Catholics regard as the priesthood of the New Law. This priesthood the bishop possesses in its fulness, the P. only in part, but the functions which belong to that part are discharged alike by the P. and the bishop, though by the former only in subordination to the latter. For these functions in detail, see PRIEST; but the principle of a certain distinction of functions, and the limitation of the power of the P. as to one at least—that of ordination—is expressly recognized by Jerome in the passage alluded to. The name P. has been retained even in the Rom. Cath. theory of a priesthood; but though, by the opponents of the episcopalian view, the term is used with the express design of excluding the sacerdotal idea, it has come, in the popular language of Rom. Cath. theology, to be identical with Priest (q.v.). From an early period, however, a distinction of rank among the presbyters came into use. Several were in some cases attached to a single church; and of these, one received the title *proto-presbyter* or *archi-presbyter;* but it is quite certain that this office bore no analogy to that of the bishop.—See PRESBYTERIANISM: CONGREGATIONALISM: EPISCOPACY: besides references previously noted.

PRESBYTE'RIAN CHURCH IN ENGLAND: organization whose germs were brought from the continent soon after the Reformation; and which had its later development in the 16th c. under Scotch, Dutch, and French influence and immigration. The principles of the Puritans (q.v.) were in large part Presb., probably because of their strong Calvinistic leanings; though many of them were too much occupied with questions of doctrine, and with resistance to power unjustly exercised, and with efforts for reformation of morals in the church, to give deep attention to development of their principles in church government. Yet, 1572, a sort of presbytery was formed at Wandsworth, in Surrey, by ministers of London and its neighborhood, separating from the Church of England;

and similar movements followed, notwithstanding the extreme hostility of Queen Elizabeth. In Jersey and Guernsey, among the Huguenot exiles after St. Bartholomew's Day, a complete Presb. church existed 1576–1625, confirmed by act of synods, and under governmental permission granted to the exiles. When the Westminster Assembly met 1643, the Puritans of England were generally inclined to adopt Presbyterianism as their system of church govt. though some still preferred a modified Episcopacy, and a drift had set in toward the principles of Independency or Congregationalism. The Presbyterians were, however, numerically the strongest party in the beginning of the revolution, though the Independents with their more uncompromising resistance to the tyranny of the crown, and with their—perhaps more English—allowance of individual liberty, soon gained the ascendency. The establishment of Presb. govt. in the Church of England was voted by parliament (the Long Parliament) 1647, June 5; but it was never really established: the influence of the Independents prevented it. London and its neighborhood were, meanwhile, formed into 12 presbyteries, constituting the Provincial Synod of London, which continued to hold regular half-yearly meetings till 1655, the meetings of presbyteries being continued till a later date; but the whole Presb. system was overturned by Cromwell's Committee of Triers, appointed for the examining and approving of all persons elected or nominated to any ecclesiastical office. Cromwell's policy (he was an Independent) aimed at universal toleration for all forms of Protestantism, and opposed the establishment of Church judicatories according to the system of the Scotch Presbyterians, who at that time were naturally inclined to deem such toleration of error a most dangerous principle and line of action. At the Restoration the Presb. ministers of London welcomed Charles II. with acclamation; and for a time the Presbyterians seemed to hold in their hands the actual power of the govt.; but the king was at heart against Presbyterianism: he temporized, while the bishops refused concessions and compromise. The Restoration was followed by the fruitless Savoy Conference (q.v.), and soon afterward by the Act of Uniformity, which came into force 1662, Aug. 24; and on that day, about 2,000 ministers in England and Wales resigned their benefices, or submitted to be ejected from them, for conscience' sake. The first Nonconformists (q.v.) were mostly Presbyterians of the Scotch type; but a small minority of Independents among them prevented the institution of a regular Presb. system, and the consequence was that the Nonconformists of England became in general practically Congregational. The Presbyterians later modified their views in the direction of Independency; which earlier they had detested. From the beginning of the 18th c. a doctrinal change set in. Antinomianism and Arminianism appeared among them, and were followed by Socinianism or Unitarianism to such extent, that the name *Presbyterian* became synonymous in England with *Socinian* or *Unitarian;* old endowments, legacies of Presbyterians, being in many instances held and used by Unitarians. These new tenets, first gaining place in the presbyteries, were thus enabled to command the churches. Meanwhile there existed in England a few congregations connected with the Church of Scotland, and with what was formerly known as the 'Secession Church,' now the United Presb. Church. The number of such afterward very much increased. At the time of the formation of the Free Church of Scotland (q.v.), the greater number of the English Presb. churches connected with the Church of Scotland sympathized with the cause of the Free Church and took the name of the Presb. Church in England. An independent synod was formed 1836. In 1876 a union, long desired, was consummated between the synod more intimately related to the Free Church of Scotland and the congregations belonging to the United Presb. The name assumed by the united church is the Presb. Church of England. At the time of the union the Presb. Church in England had about 150 churches, and the United Presb. Church more than 100. At the same date, the Church of Scotland in England had about 20 congregations. In 1885 the Presb. Church in England reported 10 presbyteries and 280 churches. Among their ministers are some men of great eminence as preachers.

PRESBYTE'RIAN CHURCH IN IRELAND: dating from the plantation of Ulster by Scottish and English colonists during the reign of James I. After various struggles, a Presb. church was founded by the formation of a presbytery at Carrickfergus 1642. The Presb. population of Ulster was greatly increased by immigration from Scotland about the middle of the 17th c.; and notwithstanding many difficulties, from the opposition of prelates and of the civil power, the church continued to increase. It is a notable fact that the Presb. ministers received a pension from govt., under Charles II., 1672, which *Regium Donum* (q.v.), however, was not regularly paid until the reign of William, when it was augmented, though only to the paltry amount in all of £1,200 a year. It was afterward repeatedly augmented, till it reached the amount of £70 for each minister. A seminary for education of ministers was erected at Killaleagh; and 1710 the synod of the Presb. Church resolved to institute the preaching of the gospel to the Irish in their own language. During this period of its history, the Irish Presb. Church experienced the utmost opposition from the *High Church* party. Afterward dissensions sprang up within it, and these with reference to the most important doctrines. A body opposed to the doctrine of the Westminster Confession of Faith was organized as the Presbytery of Antrim. But the doctrine of the Westminster Confession was more and more departed from in the Irish Presb. Church itself, which became to a large extent Arian or Unitarian. In 1830 a separation took place from the Arians, who then formed the *Remonstrant Synod of Ulster*. In 1840 a union was made between the Irish Presb. Church forming the *Synod of*

Ulster, and the *Secession Church in Ireland*, offshoot of the Scottish Secession Church, which then reckoned 141 congregations in n. Ireland. The Irish Presb. Church now consists of about 600 congregations. It has much zeal for advancement of Protestantism in Ireland; also it supports a very successful mission in Guzerat, India. The act disestablishing the Irish Church 1869, provided also for discontinuance of the *Regium Donum* to the Presbyterians, with reservation of annuities for life to ministers already entitled to it; and further gave power for commutation of annuities for a capital sum, of which advantage has been largely taken, so that a fund has been formed for paying annuities and leaving a large surplus as nucleus of a Sustentation Fund for the ministers in time to come. There are two colleges—one purely theological, at Belfast, with seven professors; the other, at Londonderry, has eight professors and a complete curriculum. The colleges were empowered 1881 jointly to grant degrees in theology

PRESBYTE'RIAN CHURCH IN THE UNITED STATES OF AMERICA: a body dating back in its earliest roots to the latter part of the 17th c. It is not known when the first church was organized. Francis Makemie, of Irish family, founded a church at Snow Hill, Md., 1864. About the same time there were churches on Long Island and in N. J., known either as Scotch Independent or as Presbyterian. The first presbytery was that of Philadelphia 1705. The first synod was organized 1717. There was some controversy in regard to strict assent to the standards, ending in reconciliation 1727, and this eventuated in the Associate Presb. Church. Later, about 1740, the Whitefield revivals gave rise to a New Side and an Old Side party. The New York Presbytery joined the New Side; and the Synod of New York, 1745, and the founding of Princeton College, were the result. Thirteen years subsequently the two sides came together, the Old Side represented by the Synod of Philadelphia. Soon after the revolution, the General Assembly was constituted (1788) and the standards were revised, these being the same as at present. There were four synods: of N.·Y. and N. J.; of Philadelphia; of Va.; and of N. and S. C. The form of govt., since modified somewhat, was taken mostly from the Scotch Presb. Church. Before the end of the 18th c., differences of opinion again arose in regard to practices and teachings connected with revivals, this time in the west, resulting in division and the formation of the Cumberland Presb. Church. In 1822 the Associate Reformed Church of the east united with the main Presb. body. Princeton Theol. Seminary had its inception 1812; other seminaries were founded as follows: Union, Va.; Southern and Western, Tenn.; Auburn, N. Y. 1816; Western, Allegheny, Penn.; Lane, Cincinnati, 1827; Columbia, S. C.; Danville, Ky. 1828; Union, New York 1836. The pastors of many scattered Congl. churches in w. N. Y. and elsewhere—being remote from their own church organizations—for convenience connected themselves with presbyteries; gradually the Congl. churches which they had gathered passed into the same connection; for the Domestic Missionary Soc., of N. Eng., and afterward the Amer. Home Missionary Soc., sent forth from New England and sustained in the new settlements many missionaries with no sectarian purpose. The two kindred denominations co-operated; and thus it came to pass, in w. N. Y. especially—and in regions farther west settled partly by migration from N. Y.—that there was large infusion of the N. Eng. religious methods, theology, and anti-slavery spirit, which yet was organized under the Presb. instead of the Congl. polity. This culminated, 1837, in the excision—by the more strict Presbyterian majority in the Gen. Assembly—of four synods, which organized themselves under the so-called New School Assembly: also in the establishment of Presb. boards of missions. A few years later, the younger Congl. leaders entered vigorously on the reconstruction of their order where it had been obscured in Presb. affiliations; there was a general growth of anti-slavery sentiment; a southern Presb. body was formed as the United Synod 1858, and merged 1864 in the southern Old School body, which had seceded 1861, forming the General Assembly of the Presb. Church of the Confederate States. In consequence of all this, the New School and the northern Old School bodies grew into harmony, and were formally and happily united 1871. This united body is the subject of the present article.

A reunion of the northern and southern organizations has been a matter of much discussion and conference, especially since 1876. By the northern assembly of 1886 the ground had been taken substantially that all questions involving religion and morals come within the scope of the church, but that its power is only 'ministerial and declarative' of the principles of Holy Scripture. At the centennial anniversaries of the two bodies 1888, a committee of the northern assembly reported that the southern committee, in conference with them, wished to know (1) if political deliverances were favored—to which there was reply affirmatively, so far as a former position had been taken in the very language of the standards; (2) if the plan of separate colored churches at the south was approved; (3) how far the church boards were under control of the Gen. Assembly; (4) how far there was a trace of the Pelagianism of 1837. The answers to these questions were supposed to be satisfactory; but the southern committee at the same time reported to its own body that the obstacles to union had not been removed. Other matters of interest in the history of the northern body the last 15 years are as follows: a Woman's Foreign Missionary Soc. was established 1870; in 1879 the deliverance of the assembly of 1835 that the Rom. Cath. Church cannot be recognized as a branch of the Church of Christ, and that its baptisms are invalid, was negatived by refusal to reaffirm it; in 1880 professors in theol. seminaries were by resolution urged not to commend to the students those Prot. religious teachers in Europe who are disseminating doctrines calculated to undermine the authority of the Holy

Scriptures, but rather strenuously to enforce that authority; in 1881 a permanent committee was appointed on education in the west, and a new board took the place of the committee the next year; in 1883 a committee was appointed to co-operate with the southern body in regard to theol. and collegiate education, and missions among the freedmen (the co-operation in respect to the latter not accepted the following year); in 1884 a report was accepted that Danville Theol. Seminary be used in perpetual joint occupancy, as agreed to by the southern committee; in 1886 it was resolved to raise a centennial fund of $5,000,000 for ministerial relief, for colleges and theol. schools, and the endowment of boards of the church; in 1887 the commission of the Prot. Episc. Church having transmitted a declaration of the House of Bishops on the subject of Christian unity, and expressed a disposition to join in fraternal conference—the assembly gave its cordial assent and sympathy; action was taken in favor of union presbyteries in foreign lands, composed in part of missionaries of other Presb. bodies, where the interests of missions seem to demand such union; the prohibition of marriage with a deceased consort's relatives, as near in kindred as would be unlawful if blood relation, was expunged; in 1888 the assembly declined to commit itself in favor of the new version of the Bible; and a committee was appointed in response to a growing demand for some modification of the standards to report a revision of proof-texts in the standards, and to suggest any other desirable changes.

The following year, 1889, it was decided to submit to the presbyteries the questions whether (1) they desired a revision of the confession of faith, and, if so, (2) in what respects and to what extent. At the meeting of the assembly 1890 it appeared that 134 presbyteries had answered 'yes' to the first question and 68 'no'; a committee was appointed to consider the answers to the second question and to formulate and submit for final decision such alterations as seem desirable, and it has been announced that the committee have decided to report additions to the confession, emphasizing the love of God, the work of the Holy Spirit, and human responsibility. The co-operation of the reformed Presb. churches throughout the world was invited in the preparation of a short creed to supplement the work of the church, especially in mission fields.

The summary statistics of this Presb. Church (1890) are: synods 30; presbyteries 213; licentiates 403; ministers 6,158; churches 6,894; Sunday-school members 867,463; contributed to home missions $889.856; foreign missions $722,305; education $470,356; church erection $313,119; freedmen $138,388; aid to colleges $248,107; church (parochial) expenses $10,009,599; total of these with other items $14,368,287 for the year. The 14 colleges assisted by or through the board (excluding three not reported) have a net property of $593,520, and the students number 1,031, of whom 472 are classical and 608 church members. The 21 academies helped have $397,429 property, 2,243 students, of whom 500 are classical and 795 church members. The freedmen's board report 16 ordained white ministers, 117 colored, 2 colored licentiates, 10 colored catechists, and 171 teachers, of whom 48 are white; the number of churches under the care of the board 245, and the number of communicants 16,502. The following theol. schools reported to the assembly: Princeton (N. J.), 171 students; real estate $400,000; general endowment $794,445; scholarship fund $261,451; income $67,402; library 51,964 vols. Auburn (N. Y.), 51 students; real estate $200,000; general fund $77,712; scholarship fund $178,307; special funds $268,678; income $31,108; library 19,000 vols. and 5,000 pamphlets. Western (Allegheny, Penn.), real estate $225,000; general endowment $162,224; scholarship fund $106,826; reunion memorial fund $100,000; all funds $711,085; ordinary expenses $32,375. Lane (Cincinnati), 44 students; real estate $332,660; general funds $160,321; income $21,161; library 16,500 vols. Union (New York), 164 students; endowment of professorships $537,500; scholarship funds $115,000; general endowment $350,000; unproductive real estate $800,000; income $66,000; library 60,337 vols. and 47,931 pamphlets. McCormick (Chicago, Ill.), 152 students; property in use $1,248,133; real estate not productive $817,456; general endowment $336,437; scholarship funds $85,925; income $26,469; library 12,148 vols. and 1,500 pamphlets. San Francisco (Cal.), 9 students; real estate $62,000;, building fund $110,000; general endowment $353,566; scholarship fund $5,000; income $15,219. Lincoln (Neb.), 25 students; land and buildings $185,000; endowment $173,000; other funds $4,000; scholarship funds $60,450. German Theol. School (Dubuque, Io.), 32 students; buildings, etc., $15,533; endowment and building funds $38,495; permanent income $10,000. German (Newark, N. J.), 36 students; general endowment $23,024; with professorships and scholarships added $63,219. Blackburn Univ. and Biddle Univ. have Presb. theol. depts., but make no statistical report. Danville (Ky.), in joint tenancy with the southern branch, has 10 students; assets $223,102, of which $209,252 is general endowment, and $12,733 scholarship fund. Some smaller funds are not included in the above summary.

The Presb. Church represented in these statistics has always stood high in intelligence and social importance, and hence has done much to promote the higher education, its direct gifts doubtless far exceeding those made through its board that assists the newer and feebler institutions. At the same time it is conservative, as shown in its action in regard to observance of the Sabbath and maintenance of its creeds. The former Socinian defection of its kindred churches in England was exceptional. The present attitude of one of its theol. teachers in New York and his sympathizers (1891) causes some criticism and debate. At the same time it has been a church of moral reform and of practical charity, as evinced by its position in regard to temperance, and its relief of the poor and the sick. The New York Presb. Hospital is one of the many evidences of this. Among the more prominent colleges under its special patronage are Princeton, N. J., Lafayette, Penn., Hamilton, N. Y., Wooster, O., Wabash, Ind., Lake Forest, Ill., and the University of the City of New York. Its 30 synods are as follows: Atlantic (S. C., Ga., and Fla.), Baltimore, Catawba, (N. C. and Va.), China (missionary), Col., Columbia (Ida. and Wash.), Ill., India (missionary), Ind., Ind. Terr., Io., Kan., Ky., Mich., Minn., Mo., Neb., N. J., N. Mex., N. Y., N. D., O., Pacific (Cal.), Penn., S. D., Tenn., Tex., Utah, Wash., Wis. The formation of a synod again in N. Eng. is under consideration. In 1745 the Boston presbytery was formed, and in 1775 was divided into three—the Salem, Londonderry, and Palmer; in 1782 it was resolved into the Salem, and now appears in the minutes of the Gen. Assembly as the Boston. The presbytery of Conn. was constituted in 1850 by the synod of N. Y. A few Presb. churches were early formed in N. Eng., reaching back to one of Huguenots in Boston 1687, and have been recruited much from Scotch and n. Ireland immigrants. See PRESBYTERIANISM: ETC.

PRESBYTE'RIAN CHURCH OF THE UNITED STATES (SOUTH): a body organized first as the Gen. Assembly of the Presb. Churches of the Confederate States, at Augusta, Ga., 1861, Dec 4. The United Synod, formed at Knoxville, Tenn., 1858, was merged in it 1864. In 1889 it had 13 synods, 68 presbyteries, 2,321 churches, 1,145 ministers, and 161,742 church members, who contributed $96,000 to foreign missions in Mexico, Brazil, Greece, Italy, China, Japan, and among the N. Amer. Indians. The total for benevolence and church expenses was $1,612,865. The southern church acts in harmony with the northern in respect to foreign missions and its publishing dept. In regard to freedmen, its policy is to constitute separate churches for them; and it has a separate theol. seminary for colored students, the Tuscarora Institute, which, at date of the above report, had 28 students, of whom 18 were Presb. The Union Theol. School in Va. passed into its hands; also the Columbia Seminary in S. C. which last has $235,000 of invested funds and an income of $13,000. As result of conference by committee with the northern Presb. body 1884, the Danville Theol. Seminary came under the patronage of both bodies, and it was proposed to remove it to Louisville, Ky. In 1886 the case of Rev. James A. Woodrow, prof. of nat. science in its relations to revealed religion in the Columbia Theol. Seminary, came up in the assembly and excited wide notice. He had favored a theory of derivation of man's physical nature from pre-existing animals. He had been arraigned by the seminary, and by the presbytery of Charleston, which decided against him. The synod of S. C. reversed this decision as adverse to free thought in scientific and debatable matters. By overtures from eight presbyteries the question came before the assembly, and Dr. Woodrow made an able argument, affirming the ground that he had taken in his papers in the *Southern Presb.*

Review 1884; but the assembly decided against him, declaring that 'Adam's body was directly fashioned by Almighty God, without any natural animal parentage of any kind, out of matter previously created out of nothing;' and it recommended the synods having the care of the seminary to dismiss Dr. Woodrow. The synod was censured, but a minority protest was entered on the minutes asserting that the Bible does not enter into the question of the manner of man's creation. At the same meeting, the assembly anticipated by one year the liberal action of the northern assembly in regard to marriage with a deceased wife's sister. The proposition was approved to petition congress to prohibit Sunday work in the post-offices, the army, and interstate commerce. In all its history, however, the assembly professed the principle with which it began, and which has come into discussion in negotiations with the northern assembly—to have nothing to do with political matters, though its records show that it recognized the Confederate cause as 'our cause' and its army as 'our army.' And while it has adhered also to the policy of separate church organizations for the colored race, it has not carried the policy to every extreme; for, 1882, it affirmed the right of a colored minister to vote in the presbytery, of which, in the case under consideration, he had been treated as a member for seven years. The policy of the southern and the northern body seems to differ substantially as little as their creed and government; they received each other's delegates 1883, preparatory to a systematic friendly correspondence; they exchange cordial greetings; and the delay of union, if there be no personal interests and ambitions back of it (the secret of much ecclesiastical and other history), seems to depend on the gradual dying out of all prejudices and the growing homogeneousness of the two sections of the republic. See PRESBYTERIANISM: ETC.

PRESBYTE'RIAN CHURCHES OF SCOTLAND: see SCOTLAND, CHURCH OF: FREE CHURCH OF SCOTLAND: UNITED PRESBYTERIAN CHURCH: ETC.

PRESBYTERIANISM: system of government of the body of churches by Presbyteries, usually in an ascending grade of ecclesiastical judicatories; also of government of a local church by the body of its presbyters or elders. It is a distinctively representative and legislative polity, aiming at consolidation of all churches so governed throughout a nation or a province—though historically no more successful in such unification than the episcopal or the congregational polities—the latter of which excludes by its nature all aim at a unity other than in fellowship. In all existing Presb. churches a primary element is the representation of congregations in presbyteries, etc., by their delegated elders; of whom the 'minister,' or preaching elder, is always one; and this system of representation is advocated partly on the general ground of the unity of the church, partly on the special ground of the example of the church in the apostolic age (Acts xv.). The affairs of a particular church are managed by a court, styled in Scotland the Kirk-session, in the United States the Session, consisting of the minister, or ministers if there are more than one, and the other elders, the minister or one of the ministers presiding, but each member having equal power and vote. From the decisions of this court, an appeal lies to the Presbytery, which is usually constituted to the ministers of a certain number of neighboring churches and one 'ruling elder' from each church. Further appeals may be taken, first to the *Synod*, embracing several presbyteries; then to the *General Assembly*, whose jurisdiction is usually co-extensive with the country, and which, as the highest judicatory, gives final decision. In the United States, a synod generally comprises the presbyteries of a state or of some great division of a state; but in respect of bodies above the presbytery there are considerable diversities in various countries; and the 'supreme' church court, whether Synod or General Assembly, is variously constituted by direct representation of each congregation, or of each presbytery, or of each provincial synod. Such diversities are not regarded as in the least affecting the principle of Presbyterianism.

Presb. churches generally recognize an order of *Deacons* (q.v.) as existing in the church, with functions relative to only its secular affairs; but in many Presb. churches this office is merged in that of the elder, and all its functions are exercised by the session. A tendency to revive the distinct office of deacon is increasing in some quarters.

Some Presbyterians maintain the *divine right of presbytery*, as the one system of church govt. authorized by the Word of God; others maintain only that Presbyterianism is *consistent* with the Word of God; while Presbyterians in general maintain that the Presb. system, whatever its imperfections as existing anywhere, is, of all systems that have ever existed in the church, the most agreeable to the principles of church govt. which are deducible from Scripture, and the safest and most efficient in practical working.

Presbyterianism, variously modified, is the form of church govt. in many Prot. churches, but is most perfectly developed in Scotland and the United States. In England it is not strong; though on the revolution in the 17th c. this Scotch system was for a very short time in the ascendant in England also—soon giving place to the English Independency, now Congregationalism. The *consistorial* system of the continent of Europe (see CONSISTORY) cannot, in any of its modifications, be regarded as essentially Presbyterian, though in some respects it approaches to Presbyterianism: as developed in the United States, in the Reformed Dutch and German churches, it is essential Presbyterianism. The French consistorial system is more nearly Presb. than the German. In some Presb. churches Presbyterianism is modified by the relations of the church to the state. At the General Presb. Council at Philadelphia (1880) 44 denominations of Presbyterians in America, Europe, and elsewhere were represented.

The 'Alliance of Reformed Churches throughout the

World,' known as the Presb. Alliance or Pan-Presb. Council, was planned at the meeting of the Evangelical Alliance, New York 1873, and organized by 100 delegates who met in London 1875, the object being to promote fellowship, information, missionary work, reform, and to counteract infidelity and intolerance. The fourth quadrennial meeting was held in London 1888, when nearly 300 delegates attended, representing 25 countries and provinces, 78 branches, 1,392 presbyteries, 209 synods, 500 missionaries, 3,603,209 church-members, who had contributed $30,000,000 to religious objects the preceding year. Among those participating in the nine days' discussions were Drs. Theodore Monod, Edmond de Pressensé, and from America, Arthur T. Pierson, Moses Hoge, Philip Schaff, John Hall, and others. The next council is to be in Toronto 1892. The number of persons of Presb. affiliations throughout the world is supposed to be not less than 20,000,000.—See Presbyter: Presbyterian Church in England: Presbyterian Church in Ireland: Scotland, Church of: Free Church of Scotland: United Presbyterian Church: Presbyterian Church in the United States of America: Presbyterian Church of the United States (South): Cumberland Presbyterians.

PRESCIENCE, n. *prē'shĭ-ĕns* [F. *prescience*, prescience —from L. *præscĭen'tĭa*, knowledge beforehand—from *præscĭens*, knowing beforehand—from *præ*, before; *scīrĕ*, to know]: knowledge of events before they take place; foresight. Pre'scient, a. *-ĕnt*, foreknowing; prophetic.

PRESCIND, v. *prĕ-sĭnd'* [F. *prescinder*, to cut off—from L. *præ*, before; *scindo*, I cut off: It. *prescindere*]: in *meta.*, to consider by a separate act of attention or analysis. Prescind'ing, imp. Prescind'ed, pp.

PRESCOT, *prĕs'kot:* manufacturing town of Lancashire, England, 8 m. e. of Liverpool. P. has manufactures of watch-tools, watch-movements, small files, etc., and there are potteries near it. Pop. (1881) 6,418.

PRESCOTT, *prĕs'kot*, Oliver, m.d.: soldier: 1731, Apr. 27—1804, Nov. 17; b. Groton, Mass.: brother of William P. He graduated at Harvard 1750, practiced medicine, and was active in the colonial militia. Prior to the revolutionary war he attained the rank of col. of militia; 1776 was appointed brig.gen. for Middlesex co. and member of the war board; 1778 became maj.gen; and 1786 was engaged in suppressing Shays's Rebellion (q.v.). He was elected a member of the supreme executive council of Mass. 1777, and was a judge of probate for Middlesex co. from 1779 till his death, benefactor of Groton Acad., and fellow of the Acad. of Arts and Sciences.—His son Oliver P., 1762, Apr. 4—1827, Sep. 26, b. Groton, graduated at Harvard 1783, studied medicine with his father, was surgeon of the expedition that suppresed Shays's rebellion, served several terms in the legislature, and was author of numerous technical treatises.

PRES'COTT, Richard: 1725–1788, Oct.; b. England: soldier. He reached the rank of col. 1772 while serving with the British army in Germany; accompanied his regt. to Canada 1773; surrendered to the American army after its occupation of Montreal 1775, Nov. 17; was exchanged for Gen. Sullivan 1776; and commanded the British forces in R. I. till again captured by the Americans 1777, July 10. Soon afterward he was exchanged for Gen. Charles Lee, and commanded in R. I. till the evacuation of Newport 1779, Oct. 25. He was promoted maj.gen. 1777, Aug., and lieut.gen. 1782, Nov. While commanding in R. I. he treated American prisoners with extreme brutality.

PRES'COTT, Robert: 1725–1816, Dec. 21; b. Lancashire, England: soldier. He entered the British army at an early age, served in the American campaigns against Rochefort 1757, Louisburg 1758, Crown Point and Ticonderoga 1759; accompanied Gen. Wolfe to Quebec; and took part in the capture of Martinique 1761, and the battles of Long Island 1776, and Brandywine 1777. In 1778 he accompanied the expedition against the French W. Indies; 1793 became lieut.gen.; 1794 captured the islands of Barbadoes and Guadaloupe; 1796 was appointed gov. of Lower Canada; 1798 promoted gen.; and 1799 recalled.

PRES'COTT, William: soldier: 1726, Feb. 20–1795, Oct. 13; b. Groton, Mass.; bro. of Gen. Oliver P. He inherited a large estate in Pepperell, Mass.; was an officer of the provincial army in the expeditions against Cape Breton 1754 and Acadia 1756; declined a commission in the Brit. regular army after the war; engaged in farming on his estate; and 1774 was appointed col. of the regt. of militiamen. 1775, Apr. 19, he marched to Lexington under orders to intercept the expedition sent by Gen. Gage from Boston to destroy the American milit. stores at Concord and to capture John Hancock and Samuel Adams. On reaching Lexington and learning of the fight with the British and their retreat, he hastened to Cambridge and with his men entered the provincial army. June 16 following, he marched with 1,000 men to Charlestown under orders to occupy Bunker's Hill, which the British intended fortifying on the 18th. His judgment decided in favor of Breed's Hill as being more suitable, and there he erected a redoubt and breastworks during the night. In the fight with the British the following day, P. commanded the Americans, as Washington, the newly-appointed commander-in-chief, had not reached Boston. He resigned 1777, was a volunteer in the Saratoga campaign, and was a member of the legislature several terms.

PRES'COTT, William Hickling, ll.d: historian: 1796, May 4—1859, Jan. 27; b. Salem, Mass.; son of a distinguished lawyer and statesman, and grandson of Col. William P., officer of the revolution. He entered Harvard College 1811, and graduated 1814. During his college course he had one eye blinded by a piece of bread playfully thrown by a fellow-student, and his studies so affected the other, that he was sent abroad for his health, and travelled in

England, France, and Italy. On his return to America, he married, and abandoned the study of law for literature. In 1819 he determined to give ten years to study, and the succeeding ten to composition. He contributed, however, several papers to the *North American Review* (collected in his Miscellanies). In 1825 he was engaged in the study of Spanish literature, and selected materials for his *History of Ferdinand and Isabella.* While engaged in this work, his sight failed, and, with the aid of a reader who knew no Spanish, he went through the seven quarto vols. of Mariana's History. After ten years of painful labor, his work was ready for the press, and a few copies struck off for his friends, whose warm approval secured its publication 1837 (3 vols. 8vo, Boston and London). It met immediate success, and was translated into French, Spanish, and German. He next gave six years to the *History of the Conquest of Mexico* (3 vols. 1843, London and New York) and four years to the *Conquest of Peru* (2 vols. 1847). These careful, elaborate, and charmingly written works made for him a high reputation. He was chosen corresponding member of the French Institute; and, on his visit to Europe 1850, he was received with high distinction. In 1855 he published two vols. of his *History of Philip II.*, and the third vol. 1858, but left it unfinished. He died at Boston. P. was an elegant scholar and writer, a man of a cheerful humor and affectionate character. He walked five m. regularly every day, composing as he walked. He assigned five hours to literary labor, two hours to novel-reading, for the refreshment of his mind. He gave one-tenth of his ample income in charity, and divided his time between his winter mansion in Boston, a summer residence at Nahant, and a farmhouse where he spent the autumn. In his large library, with the light carefully regulated for his imperfect vision, he wrote with a stylus each day what he had composed, which was then copied, read over, and carefully corrected. His life, by George Ticknor, was published 1864.

PRESCRIBE, v. *prĕ-skrīb'* [L. *præscrībĕrĕ*, to command, to prescribe—from *præ*, before; *scrībo*, I write: Sp. *prescribir*, to prescribe]: to set or lay down for direction or guidance; to give authoritatively as a rule of conduct; to appoint; to order; to give law; to claim by prescription; in *med.*, to order as a remedy to be used by a patient. Prescrib'ing, imp. Prescribed', pp. *-skrībd'*. Prescrib'er, n. *-ėr*, one who prescribes. Prescript, n. *prē'skrĭpt* [L. *præ*, before; *scriptus*, written]: direction; precept. Prescription, n. *prĕ-skrĭp'shŭn* [F.—L.]: act of directing by rules: in *med.*, the direction of remedies for a disease, and the method of using them; the thing prescribed; a recipe (see below): custom continued until it has the force of law; a right acquired by immemorial or long use (see below). Prescript'ive, a. *-ĭv*, acquired by immemorial use and enjoyment; pleading the authority of custom. Prescript'ible, a. *-ĭ-bl* [F.]: that may be prescribed for. Prescript'ibility, n. *-bĭl'ĭ-tĭ*, the quality of being prescriptible.—Syn. of 'prescribe': to dictate; command; order; appoint; ordain; institute; establish; lay down; direct.

PRESCRIP'TION, in Law: effect of the personal use or possession of a certain thing through a sufficient length of time, in causing a legal title or right in that thing to vest in such user or possessor. This mode of acquiring legal right becomes effectual only in lack of vindication by some other person of such rights by putting in force his legal remedies. In England, and in the United States, P. is of limited application, to incorporeal hereditaments, and confined to a class of rights relating to lands; e.g., rights of way, of water-course, of fishing, shooting, etc.: in Scotland, it is a general term, applicable to all legal rights and to real property.

P. in the United States is thus a mode of acquiring a legal right, incident to land, by the force merely of having claimed and exercised it, without dispute, for a certain length of time. The limit of time varies in different states, but mostly is fixed at 20 years. Thus, if a neighboring owner has for the requisite number of years, without interruption, actually used or had a right of common, such as way, pasture, fishery, shooting, etc., over another's lands, he will be entitled to it as a legal right ever afterward, unless in certain exceptional cases; and if he has held it for a certain longer period, his title ever after cannot be disputed. So, if a person whose house adjoins another's lands, and whose windows open on such land, has used or had the light coming to these windows for the requisite period, he can ever thereafter prevent his neighbor from building on his land, and thereby darkening such lights.

PRESCRIP'TION, in Medical Practice: direction or recipe, usually written, given by a physician or surgeon to a chemist for preparation of a medicinal substance suitable to a special case. In prescribing, the medical practitioner may order either an *officinal* or an *extemporaneous* compound. Officinal compounds (or preparations, as they are frequently termed) are those for which formulæ are introduced into the national pharmacopœias, and are therefore supposed to be always at hand in the laboratory of the dispensing chemist (e.g., *Mistura Ferri Composita*, *Pulvis Ipecacuanhæ Compositus*, *Confectio Aromatica*, etc.); while extemporaneous compounds are those devised on the instant to meet the peculiarities of a case of disease.

The highest English authority on the subject, Dr. Paris, in his *Pharmacologia*, lays down *five objects* which the physician should have in view in an extemporaneous formula or prescription: 1. To promote the action of the principal medicine (or, as he terms it, the basis) of a formula. 2. To correct the operation of the basis. 3. To obtain the joint operation of two or more medicines which act in totally different ways. 4. To obtain a new and active remedy not afforded by any single substance. 5. To select an eligible form.

The *first object* may be attained (*a*) by combining different preparations of the same substance, e.g., tincture of senna with infusion of senna in the ordinary Black Draught; or (*b*) by combining different substances of a similar action, e.g., opium with hyoscyamus or conium; or sulphate of magnesia with the preparations of senna; or quinine with the preparations of iron. The *second object* may be obtained in various ways: thus, the addition of extract of hyoscyamus to the compound extract of colocynth renders the purgative action of the latter much less griping, though not less efficacious; the addition of dilute sulphuric acid to a solution of sulphate of magnesia renders that purgative salt less liable to gripe, and less unpleasant on the stomach; and extract of elaterium, if given in hot brandy and water, while not losing its power as a hydragogue cathartic, does not cause the depression of the vital powers, which it often brings if given alone. To illustrate the *third object*, the operation of purgatives and of diuretics may be referred to. If a purgative be administered which acts mainly in increasing the peristaltic motion of the intestines, their contents will be urged forward and evacuated, but the operation will be slow and difficult, and probably be accompanied with griping; but if with this medicine be combined one which acts by increasing the flow of fluids into the intestine, the purgative action will be increased and quickened, and griping will be avoided. A combination of foxglove, squill, and blue pill or calomel will act much more powerfully as a diuretic than any one of the substances taken alone; and they probably all act in different ways on the system. The *fourth object* is attained usually by chemical decomposition. The activity of the *Mistura Ferri Composita* is due to the carbonate of iron which it contains, and which is yielded by the double decomposition of the two ingredients of the mixture, sulphate of iron and carbonate of potash. By prescribing a mixture of solution of iodide of potassium and corrosive sublimate, is obtained an extemporaneous formation of biniodide of mercury. The Black Wash (see LINIMENT) owes its active ingredient to decomposition of calomel by lime-water. In some cases, where no chemical action is apparent or probable, a mixture of two or more drugs seems to modify the physiological effect of each ingrediment; e.g., Dover's Powder contains as its active ingredients ipecacuanha and opium, yet in well-regulated doses it exhibits neither the nauseating properties of the former, nor the narcotic influence of the latter. The *fifth object*, the selection of the most eligible form of the remedy, requires the physician to determine whether he shall prescribe his remedy in the form of pill, powder, or mixture; whether he shall administer it as an injection into the lower bowel; whether the patient shall (in certain cases) inhale it; etc. As a general rule, there should be accommodation of the form and flavor of remedies—provided their virtues are not sacrificed—to the taste of the patient, who usually prefers pills to draughts or powders. The unpleasant taste of many medicines which must be given in the fluid form may often be obviated by the prescription. Castor-oil, cod-liver oil, and copaiba are most easily taken on the surface of orange wine, or water containing a bitter tincture, care being taken to moisten with water the edge or rim of the glass at the part applied to the mouth. The taste of solution of potash and of lime-water is best covered with milk; and the disagreeable flavor of senna is said to be concealed if its infusion is made with strong tea.

It is the custom to write prescriptions in Latin, to abbreviate well-known words, to use symbols for weights and measures, and to commence each prescription with the symbol ℞, which signifies *Recipe*, take. For illustration, the following is a prescription for a tonic draught:

(*Name of Patient.*)

℞ Infus. Calumbæ,	*f.* ʒ ix
Tinct. Calumbæ,	*f.* ʒ i
Acid. Sulph. Dilut.,	♏x
Syrup. Aurant.,	*f.* ʒ iss

M. *Fiat Haustus ter quotidie sumendus.*

Date (*in Latin.*) (*Initials or name of prescriber.*)

PRESENT, a. *prĕz'ĕnt* [F. *présent*—from L. *præsens* or *præsen'tem*, in sight or at hand; *præsentārĕ*, to show: It. *presente*]: being in a certain place; being in sight or at hand; not absent; under consideration, as the present question; being in company; not past or future; favorably attentive; not absent of mind; attentive: N. that which is laid down in the presence of; that which is given or presented; a gift: V. *prĕ-zĕnt'*, to set or place in the presence of; to introduce to a superior; to exhibit to view; to give to formally and ceremoniously; to favor with a gift; to exhibit; to lay before, as a memorial; to lay before for inquiry; to appoint to a church living; to point or direct, as a gun before discharging it. PRESENTS, n. plu. by the writings or documents now present or referred to, as 'know all men by these *presents*.' PRESENT'ING, imp. PRESENT'ED, pp. PRESENT'ER, n. *-ĕr*, one who presents. PRESENT'ABLE, a. *-ă-bl* [F.]: that may be presented; suitable for exhibition; properly prepared for introduction to another, or into society. PRESENCE, n. *prĕz'ĕns* [F.—L.]: the state of being present; approach face to face; the opposite of absence; the situation within sight or call; neighborhood, without the intervention of anything that forbids intercourse; state of being in the view of a superior; air; mien; demeanor; in *OE.*, the chamber in which a king or prince shows himself to his subjects. PRES'ENTLY, ad. *-lĭ*, soon; without delay; before long. PRESENT'MENT, n. *-mĕnt*, act of presenting; appearance to the view; the form of laying a matter before a court for examination; formal statement of an offense, made by a grand jury of their own knowledge: statement by churchwardens to the ordinary of the state of the parish. Presentment, with reference to a bill of exchange, is the formal demand made by the creditor on the debtor who is primarily liable, calling on him to accept the bill or to pay it. If the bill is not paid, then notice of dishonor must be sent to the other parties secondarily liable, who are then bound (see BILL OF EXCHANGE). PRESENTATION, n. *prĕz'ĕn-tā'shŭn* [F.—L.]: act of presenting; exhibition; right or act of presenting, as to a benefice or school (see below): ADJ. presented, or for the purpose of presenting, as a copy of a book by its author. **PRESENT'ATIVE**, a. *-ă-tĭv*, that has the right of presentation, or that admits of it; in *meta.*, capable of being directly known by, or presented to, the mind; intuitive. **PRESENTEE**, n. *prĕz'-ĕn-tē'*, one who is presented to a benefice. **THE PRESENT TIME**, now existing. **AT PRESENT**, now. **TO PRESENT ARMS**, to hold their rifles out in a position parallel to their bodies, as if delivering them up, being a token of respect paid by soldiers. **PRESENCE-CHAMBER**, the room in which a great personage receives company. **PRESENCE OF MIND**, quickness at expedients; a calm and collected state of mind, which enables a person to speak or act in the midst of unexpected difficulties without disorder or embarrassment. SYN. of 'present, n.': a gift; donation; benefaction; endowment.

PRESENTA'TION: act by which a patron of a living in the Established Church of Scotland appointed a minister; so called because the presentee had to be presented to the presbytery for inquiry into his qualifications, and for induction if these were satisfactory. If the patron failed to present within six months, the right then devolved on the presbytery. When a presentee was objected to by the major part of the congregation, whether with or without reason, the gen. assembly of the church formerly claimed the right to declare that he should not be inducted or entitled to the benefice. This declaration was contained in an act of asssembly, dated 1835, called the Veto Act. But after much litigation, it was decided by the courts of law that such Veto Act was *ultra vires* and void; and this decision led to a secession of many ministers and people from the Established Church, and to the formation of a new dissenting church, called the Free Church of Scotland (q.v.). It was then settled by law that it was the presbytery, not the congregation, who were to consider all objections to the presentee, mere dislike on the part of the people not being a ground of rejection. In 1874, however, an act of parliament was passed by which patronage was abolished, and the right of choosing a minister transferred to the congregation. See PATRONAGE.

PRESENTIMENT, n. *prĕ-sĕn'tĭ-mĕnt* [F. *pressentiment*, presentiment, foreboding—from L. *præ*, before; *sentio*, I discern or perceive by the senses: It. *presentimento*]: previous apprehension of something about to come—generally of something unpleasant or distressing; a foreboding.

PRESENTOIR, n. *prĕ-zăngt-wawr'* [F.]: an ornamental cup, very shallow, and having a tall, enriched stem. It was a decorative article of luxury, much fabricated in the 16th century.

PRESERVA'TION OF WOOD: see WOOD-PRESERVING.

PRESERVE, v. *prĕ-zėrv'* [It. *preservare;* F. *préserver*, to preserve, to keep—from L. *præservārĕ*—from *præ*, before; *servo*, I save, I deliver]: to keep or save from injury or destruction; to keep from decay or in a sound state; to secure; to defend; to maintain, as appearances; to boil with sugar to keep from decay: N. a fruit or vegetable boiled with sugar, to keep it from decay, and to render it pleasant to the taste (see below); a place set apart for the shelter and protection of game intended for sport. **Preserv'ing**, imp.: Adj. keeping safe from injury or decay; defending from evil. **Preserved'**, pp. *-zėrvd':* Adj. kept from injury or decay. **Preserv'able**, a. *-zėrv'ă-bl*, capable of being preserved. **Preserv'er**, n. *-ėr*, one who preserves; one who keeps from ruin, or delivers from some impending danger; a deliverer; a savior. **Life-preserver**, apparatus, usually attached under the arms, intended as protection against drowning; a weapon for defense, specifically a bludgeon. **Preservation**, n. *prĕz'ėr-vā'shŭn*, the act of preserving or keeping safe; the state of being preserved. **Preservative**, a. *prĕ-zėrv'ă-tĭv*, or **Preserv'atory**, a. *-tėr-ĭ*, that has the power or quality of preserving. **Preserv'ative**, n. that which prevents injury or decay.—Syn. of 'preserve, v.': to keep; hold; save; secure; sustain; uphold; spare; defend; guard; protect; shield.

PRESERVES—PRESERVED PROVISIONS: terms comprehending a great variety of food, kept by various modes from decay. Preserves denote generally fruits preserved with sugar or brandy: and preserved provisions such articles of animal or vegetable food as are used ordinarily, but which are preserved by any means for convenience of carriage, and for use beyond the time of their remaining uninjured by ordinary keeping. Fruits intended for confectionery are preserved in four different ways: (1) In the form of jam, in which the fruit is simply boiled with from one-half to equal its weight of sugar: by this method the fruit becomes broken, and the juice set free; but all is preserved, as the latter forms a thick syrup with the sugar. Such preserves can be kept, if well made, for several years, but are best if used during the first winter. (2) By preserving only the juice, which, when carefully strained from the solid portions of the fruit, and boiled with a third or half its weight of refined sugar, constitutes the fruit-jellies of the cooks and confectioners. (3) By candying, which consists in taking fruits whole or in pieces, and boiling them in a clear syrup previously prepared: thus they absorb the syrup, and are then dried by a gentle heat, which causes the sugar of the syrup to crystallize on the surface and through the substance of the preserved fruits, which retain their form, and much of their color. (4) By carefully stewing fruits in a weak syrup of refined sugar and water, so that they are rendered soft, but not broken. They are then transferred, with the syrup, to jars with well-prepared covers, to prevent evaporation; and pale brandy, equal in quantity to the syrup, is added. As a rule, only stone-fruits, such as peaches, plums, and cherries, are preserved in this way. Several fruits and vegetables, e.g., olives, cucumbers, cabbage, etc., are preserved for food in a saturated solution of salt and water poured in hot; others, in vinegar: see PICKLES.

But the most approved methods of preserving vegetable and animal substances for food nearly as in the fresh state, is either to desiccate them, or to seal them in air-tight cases. The desiccating process introduced in Paris 1852 is applied chiefly to vegetables, and to a few kinds of fruit, such as apples and pears, which have but little juice. This method removes all moisture from the vegetables, by drying either in a vacuum or by aid of heated air, which reduces their bulk more than one-half. They are then compressed under powerful presses, which, besides rendering them easily portable, also makes them less liable to absorb moisture from the atmosphere, as they are very absorbent. Both the color and distinctive flavor of the vegetables are completely preserved, and mere soaking in water restores them nearly to their original substance. This process enables ships to carry vegetable provisions on the longest voyage.

Preservation of food in air-tight cases is now applied on a vast scale. The methods are various. By one of the earliest—Wartheimer's three patents, 1839-41—the provisions of whatever kind are put into metal cases, and closely packed, and the interstices filled in with water or other appropriate liquid, such as gravy in the case of flesh-food. The lids are then soldered on very securely; two small perforations are made in each lid, and the cases are set in a water-bath, in which muriate of lime is dissolved, and heat is applied until the whole boils, and the air is expelled through the small openings in the lids of the cases. When this is complete, the small holes are quickly soldered over, and the tins are removed from the bath. The muriate of lime is used because its solution can easily be maintained at 270° to 280° F., without material evaporation. Preparation of tinned salmon for export to Europe has become a very important industry on the Columbia river and rivers of the British Pacific coast. American oysters are largely exported to England. From Australia and New Zealand much tinned meat is sent to Europe.

The chemist Liebig suggested the manufacture of a concentrated extract of meat: and this is now made extensively, chiefly for invalids, and for quickly making soups. Only the lean or muscular part is used, and this is boiled until all but the fibrin is dissolved out; the liquid is then concentrated until it is brought to a thick paste, in which state it is easily preserved. There has been much controversy concerning the nourishing properties, not only of Liebig's, but of all meat extracts; but those physiologists who have least to say in their favor, do not deny that they have some useful properties as food, and their use is decidedly on the increase. The Liebig Extract of Meat Company is said to have slaughtered (1872) 150,000 cattle.

A few years ago, Prof. Redwood patented a method of preserving fresh meat by a coating of paraffin; but this substance, from its brittleness, is apt to crack, and is not reported as now in use. Mariotti patented a peculiar plan, which consists in carbonizing the whole surface of the meat by taking advantage of the high temperature of boiling fat into which it is dipped. No way of preserving animal food fresh, however, excels the simple one of storing it in chambers at a temperature as little as possible above 32°. By this method large supplies of fresh meat are frozen and sent from the United States, Canada, and Australia in steamers fitted up for that purpose. The meat is frozen, and kept at low temperature, by means of Refrigerating Machines (q.v.): see also FREEZING MIXTURES.

For Milk preserved by condensing process, see MILK.

The trade of the United States in the principal kinds of P. during the year ending 1890, June 30, was as follows:

IMPORTS.

ARTICLES.	Quantity.	Value.
Anchovies and sardines	....	$ 728,108
Dried, smoked, and cured cod, haddock, hake, and pollock	12,750,315 lbs.	409,388
Dried and smoked herring	6,502,573 "	140,144
Pickled and salt herring	125,440 bbls.	881,818
Pickled mackerel	70,437 "	1,010,670
Pickled salmon	3,946 "	67,149
All other fish	....	473,105
Plums and prunes	58,093,410 lbs.	1,789,176
Raisins	36,914,330 "	1,997,103
Other preserved fruits	....	954,331
Prepared meats and meat extracts	....	407,038
Preserved and condensed milk	....	98,395
Pickles and sauces	....	386,307
Preserved and prepared vegetables	....	510,077

EXPORTS.

ARTICLES.	Quantity.	Value.
Canned vegetables	....	$ 231,265
Preserved ginger	....	5,958
Dried, smoked, or cured cod, haddock, hake, and pollock	17,030,019 lbs.	739,186
Dried herring	3,664,704 "	103,091
" other fish	1,515,790 "	83,968
Pickled mackerel	948 bbls.	15,512
" herring	2,267 "	9,614
" other fish	23,683 "	110,910
Canned salmon	28,781,661 lbs.	3,259,344
Other canned fish	....	212,641
Canned oysters	....	837,239
Other shell fish	....	372,238
All other fish	....	194,997
Dried apples	20,861,462 lbs.	1,038,682
Fruits, canned	....	698,321
" otherwise preserved	....	59,401
Grape sugar	38,256,161 lbs.	855,176
Beef, canned	82,638,507 "	6,787,193
" salted and pickled	97,508,419 "	5,250,068
" otherwise cured	102,110 "	9,223
Bacon	531,899,677 "	39,149,635
Hams	76,591,279 "	7,907,125
Pickled pork	79,788,868 "	4,753,488

PRESES, n. *prē'sēs* [L. *præses*, a president—from *præ*, before, in front; *sedĕo*, I sit]: in *Scot.*, one who presides over the deliberations of an organized society; a president; a patron; a chairman: see PROCEDURE. RULES OF LEGISLATIVE AND DELIBERATIVE. *Note.*—This word is not a contraction of president, but is directly from Latin *præses*. *Chairman* is now the word generally employed.

PRESIDE, v. *prĕ-zīd'* [F. *présider*—from L. *præsĭdērĕ*, to have the care or management of—from *præ*, before; *sedĕo*, I sit]: to sit over others, as a chairman or director; to have the place of authority over others; to direct or control, as a chairman or chief officer. PRESID'ING, imp.: ADJ. directing; controlling. PRESID'ED, pp. PRESIDENCY, n. *prĕz'ĭ-dĕn-sĭ*, presidentship; the term, office, or jurisdiction of the president of a state; a president's residence. PRES'IDENT, n. *-dĕnt* [F.—L.]: an officer appointed to preside over and control the proceedings of a number of persons; a chairman; the highest officer of state in a republic; the chief officer of a college or university—principally, in the United States. PRES'IDENTSHIP, n. the office of a president. PRES'IDEN'TIAL, a. *-dĕn'shăl*, pertaining to a president; presiding over. LORD PRESIDENT OF THE COUNCIL, in *Britain*, fourth great officer of the state, who attends the royal person, and manages debates in council.

PRESIDENT OF THE UNITED STATES: chief executive magistrate of the United States, under the constitution framed 1787 and adopted 1789. He represents the national sovereignty of the Union, which in a more restricted form was earlier represented by the presidents of congress, of whom there were 13 (1774, Sep. 5—1789, Mar. 3). The office of P. was created by art. II. of the constitution, supplemented by the 12th amendment. An act of congress 1792, and another 1845, modified the method of election, which is by electors appointed by each state, as its legislature may direct, and equal in number to the number respectively of each state's representatives and senators in congress. The P. must be a natural born citizen, 14 years resident in the United States, and not less than 35 years of age. He is elected for a term of four years, with a vice-P. chosen for the same term, and enters on his office the next 4th of March, with this oath: 'I do solemnly swear (or affirm), that I will faithfully execute the office of P. of the United States, and will, to the best of my ability, preserve, protect, and defend the Constitution of the United States.' He is commander-in-chief of the army and navy; and of state militia in the service of the United States. He has power to make treaties, with the advice and consent, by a two-thirds vote, of the senate; and to nominate, and, with the consent of the senate, appoint ambassadors, ministers, consuls, judges of the supreme court, and all other officers of the United States not otherwise appointed under the constitution and required by law; except that congress may by law give to the heads of depts., or to the courts, the appointment of inferior officers. In the case of vacancies happening during the recess of the senate, the P. may fill them by granting commissions which shall expire at the end of the senate's next session. The P. may require, from the heads of executive depts., opinions in writing on any subject under their care; he shall, from time to time, give information, and recommendations, to congress, on matters relative to the state of the Union; he may call one or both houses of congress to meet in special session; if the two houses disagree about the time of adjournment, he may adjourn them; he shall receive ambassadors and other public ministers; shall take care that the U. S. laws be faithfully executed, and shall commission all the officers of the United States; and he may grant reprieves and pardons for offenses against the United States except in cases of impeachment. In relation with the legislature power vested in congress, art. I., sec. 7, of the constitution requires that, for the full passage of any bill, order, resolution, or vote, requiring the concurrence of both houses, such bill, order, etc., shall be sent to the P. for his signature if he approve it, or for his objections if he disapprove it; but shall become law without his signature if he fails to take action within ten days; and shall become law in spite of his objections if the two houses, on reconsideration, shall again pass the bill, or order, etc., by a two-thirds vote, with a record on the journal of each house of the names of those voting for or against. The return of any bill, or order, etc., must be to the house in which it originated, and the P.'s statement of objections is called a veto, though it is a check only, and not an absolute veto. The salary of the P. has been $25,000 (1789–1873), and $50,000 since 1873, Pres. Grant's second term. In common with all civil officers of the United States, the P. and vice-P. may be removed by impeachment for, and conviction of, treason, bribery, or other high crimes and misdemeanors.

PRESIGNIFY, v. *prē-sĭg'nĭ-fī* [*pre*, before, and *signify*]: to intimate beforehand; to show previously. PRESIG'NIFYING, imp. PRESIG'NIFIED, pp.

PRESS, n. *prĕs* [F. *presser*, to press, to squeeze—from L. *pressārĕ*, to press or force into; *prĕmĕre*, to press: Dut. and Ger. *pressen*, to squeeze: It. *pressare;* F. *presse*, a press]: an instrument or machine for compressing bodies; a printing-machine; the art or business of printing and publishing; the whole literature of a country—usually restricted to the literature of newspapers (see PRINTERS: PRINTING: NEWSPAPER): a crowd; urgency; violent tendency; a small closet with shelves; a close, movable wooden case having shelves; in *Scrip.*, a wine-vat or cistern: V. to urge with force or weight; to crush or compress; to urge or enforce; to hurry; to overwork; to embrace closely; to force into a service, as the naval service (see PREST): to distress or bear strongly on; to act with compulsive force; to go forward with impulsive eagerness; to crowd or throng; to urge with importunity; to push against. PRESS'ING, imp.: ADJ. urgent; importunate; distressing: N. an urging; importunity; the act of applying force. PRESSED, pp. *prĕst.* PRESSER, n. *prĕs'ėr*, one who or that which presses. PRESS'INGLY, ad. *-lĭ.* PRESSURE, n. *prĕsh'ûr* [L. *pressūra*, a pressing]: act of pressing; the state of being pressed; the force of one

body acting on another by weight only, or by the continued application of power; a tendency to produce motion; a constraining force or impulse; that which distresses; urgency; difficulties; an impression. PRES'SURAGE, n. -*āj*, the juice of the grape extracted by the wine-press. PRESSMAN, among *printers*, one who works at the press. PRESSWORK, the operation of taking impressions from type on paper. PRESSING-IRON, an iron, which, when heated, is used for smoothing cloth. PRESSING TO DEATH (see PEINE FORTE ET DURE). PRESS OF SAIL, in a *ship*, as much sail as the state of the wind can possibly allow. PRESSURE-GAUGE, a register of the pressure of steam.—SYN. of 'press, v.': to squeeze; crush; distress; straiten; constrain; force; compel; urge; impose; hurry; overwork; drive; affect; enforce; inculcate; importune; compress; hug; embrace; go forward; encroach; crowd; throng; push; invade; pinch; oppress;—of 'press, n.': crowd; tumult; force; throng; closet; case; urgency; multitude.

PRESS, LIBERTY OF THE: right of publishing books, pamphlets, and newspapers, without restraint or censorship. It involves absence of any authorized official restraint on publication. The press is an instrument well adapted for disturbing the functions of government, and committing injuries against reputation; and when its power as a political engine was first discovered, the European governments took it into their own hands, no one being allowed to print any work till it had obtained the sanction of the proper authorities. The clergy also, on behalf of the papal hierarchy, claimed a share in the censorship, where religion was concerned. In England, at the Reformation, the control of the press came to be more completely centred in the crown than elsewhere, the ecclesiastical in addition to the secular department being vested in Henry VIII. as temporal head of the church. The Company of Stationers, who came to have the sole right to print, were servants of the govt., subject to the control of the Star Chamber. The censorship of the press was enforced by the Long Parliament, and was re-established more rigorously by the Restoration. It was continued at the revolution, and the statute regulating it was renewed from time to time, till 1693, when the commons, by special vote, struck it out of the list of temporary acts to be continued. At that time, censorship of the press ceased in Britain. In the United States it has never been known. But though there are no official restrictions on what shall and what shall not be published, the authors and publishers of criminal or injurious matter are amenable to the law of libel; and there are certain statutory requirements in force to make it possible to trace them. See LIBEL: NEWSPAPER.

A more or less rigorous censorship of the press exists in most European states. There is often no direct supervision previous to publication, but the official censor has it in his power to stop any publication which he deems objectionable, to confiscate the edition, and prosecute the author and editor. Newpapers and pamphlets are generally subjected to a stricter censorship than larger works.

PRESS ASSOCIA'TION: organization for collection and sale of news. In the United States there are several kinds. The oldest is the Associated Press, established New York 1849. It is not a corporation of individuals, but an assoc. of newspapers comprising the *Herald*, *Times*, *Tribune*, *Sun*, *World*, *Journal of Commerce*, and *Mail and Express*, and, conditionally, the *Evening Post*, *Commercial Advertiser*, and *Staats-Zeitung*. The assoc. collects news from all parts of the country and all parts of the world, and charges each newspaper in it with its proportion of the cost. The membership, i.e., number of newspapers entitled to its privileges, cannot be increased without the consent of all the members; hence the assoc. is a very close one. A single membership is valued at $250,000. Besides supplying its own members with the news, it sells to or exchanges with similar associations in all parts of the world; so that the cost of news to its own members is reduced very low. Next to the Associated Press are the United Press Association and the Press News Association, both conducting business on the same general lines as the Associated Press, but as corporations of individuals. In addition, there are sectional associations for more restricted service, as New England Associated Press; state, as N. Y. Associated Press; and local, as City Press Association. An entirely different class of associations comprises a large number of corporations and business firms which send the news or summaries of it, with original and selected reading-matter, to subscribing newspapers, in the form of type-metal plates or celluloid shells, prepared for immediate insertion in newspaper 'forms.' This service saves country and small newspapers the cost of type-setting and furnishes 'live matter' at an average rate of about one cent per sq. inch. Such purely commercial associations and syndicates of writers are common to all parts of the United States. The Kellogg *List* was the first and is the largest medium for the sale of ready-made 'plate matter,' or 'patent insides;' and next to it is the American Press Association, which furnishes plain and pictorial 'matter' as desired. For many years Reuter's Telegram Agency was the largest foreign news collector, and within a few years Dunlap's Dispatch has become well-known: both exchanged news with the Associated Press.

PRESSENSÉ, *prā-sŏng-sā'*, EDMOND DÉHOULT DE, D.D.: French Prot. pastor, author, and statesman: 1824, Jan. 7—1891, Apr. 8; b. Paris. His studies were pursued under the Rev. Dr. Vinet of Switzerland, and at Berlin and Halle. In 1847 he became minister of the free Prot. chapel in Paris; in 1871 he was elected a republican member of the national assembly; in 1883 he was chosen senator *inamovible*, and, 1886, pres. of the left centre (conservative republican). He made notable speeches in discussion of municipal law, primary education, treatment of criminals, state patronage of the church; and effected such measures as the equality of the sexes before the law in divorce proceedings, and the restoration of the law of 1750 in favor of Prot. exiles. Among his many publications, of which the most important have been translated, are *History of the First Three Centuries of the Christian Church* (4 vols. 1858–69); *Jesus Christ, His Times, His Life, and His Work* (1866); *The Vatican Council* (1872); *Religious Liberty in Europe* (1874); *The Moral Life of the First Christians* (1875); *The Ecclesiastical Question of* 1877 (1877); *The Origins* (*Problem of Knowledge; Cosmological Problem; Anthropological Problem; Origin of Morals and Religion;* 1883)—an elaborate philos. work, transl. into Eng. and Ger.; and an important work, *The Ancient World and Christianity.* He was the founder and has been the leading editor of the *Revue Chrétienne.*—His wife, EMILE DEHAUT DE P., has published many books for the young; and his son, FRANCIS DE P., late sec. of embassy and diplomatic ed. of *Le Temps*, is author of able reports on England and Ireland.

PRESSIROSTRES, n. plu. *prĕs'ĭ-rŏs'trēz* [L. *pressus*, flattened—from *premĕre*, to press; *rostrum*, a beak]: group of the grallatorial or wading birds, having a compressed or flattened beak, of moderate size, not so strong as in the *Cultrirostres;* while the hind toe is either wanting, or so short as not to touch the ground: to this tribe belong bustards, plovers, lapwings, oyster-catchers, etc. PRESSIROSTRAL, a. *-rŏs'trăl*, pertaining to.

PRESS-MONEY, PRESSGANG: see under PREST.

PREST, a. *prĕst* [L. *præsto*, at or in hand, ready: F. *prêt;* Norm. F. *prest*, ready: It. *presto*—from mid. L. *præstus*, ready]: ready; prompt. TO GIVE MONEY IN PREST, to give money in hand, but to be accounted for. PREST-MONEY, corrupted into PRESS-MONEY, money given in hand; the *earnest*-money received by a soldier taking service. TO PREST or PRESS, to engage soldiers. PRESTATION-MONEY, money formerly paid yearly by archdeacons, etc., to their bishops. PRESSGANG, a body of seamen employed on land to take men by force to serve in the navy. PRESSMAN, one who forces or impresses another into service. *Note.*—At a later period the practice of compelling men to enter the naval service gradually gave the idea that the word PREST meant to force men, and the original reference to earnest-money was lost sight of—see Wedgwood and Latham.

PRESTANT, n. *prĕs'tant* [F.]: the open diapason of an organ, sometimes 16 ft., sometimes 8 ft. in length.

PRESTER JOHN, *prĕs'tėr* [*Priest* or *Presbyter John*]: the name given in the middle ages to a fabulous Christian king of Asia: see JOHN, PRESTER.

PRESTEZZA, n. *prĕs-tĕtz'a* [It.]: in *mus.*, haste, hurry, or quickness of movement or execution.

PRESTIDIGITATION, n. *prĕs'tĭ-dĭj'ĭ-tā'shŭn* [L. *præsto*, quickly; *digĭtus*, finger]: the arts of a conjurer; skill in legerdemain; sleight of hand. PRES'TIDIGITA'TOR, n. *-tā'tėr*, one skilled in sleight of hand; a conjurer.

PRESTIGE, n. *prĕs'tĭj* or *-tēzh* [F. *prestige*, fascination: It. *prestigio*, an enchantment—from L. *præstig'ĭŭ*, an illusion]: the moral influence derived from past successes and achievements, on which a confident belief is founded of future triumphs; influence of character or conduct; weight or influence from former deeds or character. PRESTIGES, n. plu. *prĕs'tĭ-gēz*, illusions; magical tricks.

PRESTIGIATION, n. *prĕs'tĭj-ĭ-ā'shŭn* [see PRESTIGE]: in *OE.*, deception; legerdemain.

PRESTIMONY, n. *prĕs'tĭ-mŏn-ĭ* [Port. and Sp. *prestimonia*, an annuity granted to a priest]: an annuity formerly paid to a priest without benefice for saying prayers at certain stated hours.

PRESTO, ad. *prĕs'tō* [It. *presto*, quick: L. *præsto*, at hand, ready]: in *music*, a term denoting quick time; among *jugglers*, a word as of magical command for sudden changes: at hand; at once; quick. PRESTISSIMO, ad. *prĕs-tĭs'sĭ-mō*, very quick; most rapid movement known in musical composition.

PRESTON, *prĕs'ton:* important manufacturing and market town, municipal and parliamentary borough in Lancashire, England; on the n. bank of the Ribble, and at the head of the estuary of that river, on a height 120 ft. above the river, and at the head of its estuary; 27 m. n.n.e. of Liverpool; area 2 m. square. The houses are mostly of brick, and the town is on the whole well laid out, and is surrounded with pleasing scenery. The river is crossed by two bridges and several railway viaducts. There are 14 churches and 7 Rom. Cath. and 20 dissenting chapels. The chief public buildings are the Town-hall of Gothic design, which contains the Guild-hall and Exchange (cost more than £60,000); Preston and County of Lancaster Royal Infirmary; Corn Exchange and market-house; House of Correction and court-house; Institution for Diffusion of Useful Knowledge, with library of 10,000 vols.; Institute and School for the Blind. It has also several public libraries; 2 weekly and 2 semi-weekly newspapers. Linen manufactures were formerly the staple, and though still extensive, have been supplanted by cotton manufacture. P. contains about 90 cotton-mills, employing about 27,500 hands. There are also iron and brass foundries, iron ship-building yards, carriage-works, and machine shops; and malting, brewing, and rope-making are carried on. P. is a free port, and is reached at spring-tides by vessels drawing 14 ft. 255 vessels of 17,348 tons entered and cleared the port 1880. Its imports are chiefly corn, iron, and timber; its exports principally coal. Four great fairs are held here during the year, besides the usual weekly markets. The celebrated guild of merchants, called Preston Guild, is still observed here every 20 years. On the last occasion, 1862, the foundation stone of the new Town-hall was laid. It is about 700 years since the guild merchant of P. was acknowledged by royal charter: the first of its 14 royal charters was granted in the reign of Henry II. P. alone has kept up the celebration of its guild to the present.—Pop. (1881) 93,707.

PRES'TON, HARRIET WATERS: author: b. Danvers, Mass., about 1843. Her first literary effort, a translation from the French, *The Life of Madame Swetchine*, was followed by a translation of the writings of Madame Swetchine. In 1881 she published a translation of the *Georgics of Virgil*. In addition to her numerous translations, she has published novels; one, *Is That All?* (1876) in the 'No Name' series. She has also been a frequent contributor to the *Atlantic Monthly* and other periodicals. She resides much of the time in Europe.

PRES'TON, JOHN S.: politician: 1809–1881, May 1; b. near Abingdon, Washington co., Va.; brother of William C. P., and grand-nephew of Patrick Henry. He was educated at Hampden-Sidney College and the Univ. of Virginia, and studied law at the Harvard Law School. He settled in S. C. and became a wealthy planter, residing most of the time at Columbia. He was elected to the state legislature and became a leader and orator of the extreme states' rights party, and after the election of Lincoln a strong advocate of secession. He died at Columbia.

PRES'TON, MARGARET (JUNKIN); author: b. Philadelphia, about 1825: daughter of George Junkin, D.D., and wife of Prof. John T. L. P. She began contributing to *Sartain's Magazine* 1849; translated *Dies Iræ* 1855; published *Silverwood*, a novel, 1856; afterward composing only poetry. Her most noted volume of verse is *Beechenbrook* (New York 1866), which contains a number of lyrics that were popular in the south during the civil war. *Old Songs and New* was published 1870, and *For Love's Sake* 1887.

PRES'TON, THOMAS SCOTT, D.D.: clergyman: b. Hartford, Conn., 1824 July 23. He graduated at Trinity Coll., Hartford, and the Prot. Episc. Seminary, New York. After clerical service in the Church of the Annunciation and St. Luke's, New York, he retired to St. Joseph's Theol. Seminary 1849, and a year later took orders in the Rom. Cath. communion. He was pastor at Yonkers, after acting as asst. in the old St. Patrick's Church, Mulberry st.; sec. to Bp. Hughes 1853; chancellor of the archdiocese of New York 1853; vicar-general 1873; and has been pastor of St. Ann's Church since 1861. He is author of *Ark of the Covenant* (1860); *Life of St. Mary Magdalene* (1860); *Sermons for the Principal Seasons of the Sacred Year* (1864); *The Purgatorian Manual* (1866); *Lectures on Christian Unity* (1866); *Reason and Revelation* (1868); *Christ and the Church* (1870); *The Vicar of Christ* (1871); *Devotion of the Sacred Heart* (1874). He is regarded as a man of eminent piety, learning, zeal, and administrative ability. The 40th anniversary of his ordination was celebrated by his clerical brethren and his friends with much enthusiasm 1890, November.

PRESTONPANS, *prĕs-ton-pănz':* village of Haddingtonshire. having a station on the N. British railway, 8½ m. e. of Edinburgh. It is supposed to have had salt-pans as early as the 12th c., and possessed thriving manufactures till some time after the Reformation. Its present manufacturing industry is limited to that of ale. Near P. was fought the famous battle of that name, in which the Jacobites under Prince Charles Edward completely routed the royal army under Sir John Cope, capturing their cannon, baggage, and military chest. Pop. (1881) 2,265.

PRESTWICH, *prĕst'wich:* cotton manufacturing village and township of Lancashire, 4 m. n.w. from Manchester. It has a fine old Gothic church, built in the 13th c., and restored in 1861, also a large county lunatic asylum, erected in 1861. Pop. (1881) 8,627.

PRESUME, v. *prĕ-zūm'* [F. *présumer*—from L. *præsūmĕrĕ*, to anticipate, to presuppose; *præsump'tĭo*, an anticipation—from *præ*, before; *sūmo*, I take; *sumptus*, taken: It. *presumere*, to presume]: to take or suppose to be true or entitled to belief; to take for granted; to act without positive permission; to act with great confidence or arrogance. **Presum'ing**, imp.: Adj. venturing without leave; too confident or arrogant; unreasonably bold. **Presumed**, pp. *prĕ-zūmd'*. **Presum'er**, n. *-ėr*, one who presumes; an arrogant person. **Presumable**, a. *prĕ-zūm'-ă-bl* [F.—L.]: that may be taken for granted. **Presum'ably**, ad. *-blĭ*. **Presum'ingly**, ad. *-lĭ*, confidently; arrogantly. **Presumption**, n. *prè-zŭm'shŭn*, act of presuming; a supposition previously formed; confidence grounded on strong probability (see Presumption, in Law): an argument strong but not demonstrative; blind or headstrong confidence; arrogance. **Presump'tive**, a. *-tĭv*, grounded on probable evidence; proving circumstantially, not directly; probable, as opposed to apparent; presumptuous. **Presump'tively**, ad. *-lĭ*. **Presumptuous**, a. *prĕ-zŭm'-tū-ŭs*, bold and confident to excess; arrogant; hazarding safety on too slight grounds; rashly confident; wilful; irreverent with respect to holy things. **Presump'tuously**, ad. *-lĭ*. **Presump'tuousness**, n. *-nĕs*, the quality of being presumptuous or rashly confident; arrogance; irreverence. **Presumptive evidence**, evidence derived from circumstances which usually attend a fact, as distinct from direct evidence or positive proof; circumstantial evidence. **Heir presumptive**, one who would inherit were things to remain in their present state, but whose succession may be put aside by the birth of a nearer heir.—Syn. of 'presumptuous': presuming; rash; arrogant; insolent; over-confident; foolhardy; forward; audacious; wilful.

PRESUMP'TION, in Law: inference drawn by the law in certain circumstances or conditions of facts, and used generally as a mere starting-point in an argument or litigation. Presumptions are often divided into *presumptio juris* and *presumptio juris et de jure*. The former serves as a mere starting-point, and may be rebutted by proof to the contrary. Thus, a person who has possession of goods, is presumed the owner till the contrary is proved. A man is presumed innocent until the contrary is proved. A *presumptio juris et de jure* is said to be a presumption which cannot be rebutted; but there are few instances of this. Presumptions abound in all departments of the law, and are adopted from the necessity of coming to some conclusion or other in most cases when the evidence is general or inconclusive. A common illustration is when two persons are drowned at sea, and legal rights depend on the fact which of them survived the other. In such a case, it is presumed, by the law of some countries, that the younger person survives. But in case of mother and child dying during delivery, the presumption is that neither survived. If a person disappear, and is not heard of, he is presumed living. Yet this presumption is not allowed to interfere with the the right of a married woman to consider herself a widow, after her husband has left her, and has not been heard of for a certain number of years.

PRESUPPOSE, v. *prē'sŭp-pōz* [*pre*, before, and *suppose:* F. *présupposer*, to presuppose]: to suppose as previous; to imply as antecedent; to take for granted. PRE'SUPPOS'ING, imp. PRE'SUPPOSED', pp. *-pōzd'*.

PRESURMISE, n. *prē'sėr-mīz* [*pre*, and *surmise*]: in *OE.*, a surmise previously formed.

PRESYSTOLIC, a. *prē-sĭs-tŏl'ĭk:* in *phys.* and *pathol.*, occurring just previous to the systolic contraction. The presystolic murmur may be faintly heard when the orifice between the auricle and the ventricle is so narrowed as to obstruct the flow of the blood from the former to the latter.

PRETEND, v. *prĕ-tĕnd'* [F. *prétendre*—from L. *prætendĕrĕ*, to spread before or in front, to allege—from *præ*, before; *tendo*, I stretch: It. *pretenderė*, to pretend]: to hold out or allege to others something as true which is feigned or unreal; to assume or affect to feel; to simulate; to claim or put in a claim, true or false, generally in a depreciatory sense; to hold out the appearance of possessing or performing; in *OE.*, to forebode; to design; to intend. PRETEND'ING, imp. PRETEND'ED, pp. PRETEND'ER, n. *-ėr*, one who lays claim to anything under the pretense of a right; in *Eng. hist.*, a name applied to the son and grandson of James II., the heirs to the house of Stuart, who laid claim to the British crown, from which their house had been excluded by enactment of parliament. PRETEND'EDLY, ad. *-lĭ*, by false appearance or representation. PRETEND'INGLY, ad. *-lĭ*, arrogantly; presumptuously. PRETENSE, n., or PRETENCE, n. *-tĕns'* [L. *prætentus*, alleged: Sp. *pretenso*, pretense]: a holding out to others something unreal or feigned; that which is assumed; a feigned claim; outside show; excuse. PRETENSE'LESS, a., or PRETENCE'LESS, a. *-lĕs,* not having or making pretenses. PRETEN'SION, n. *-tĕn'shŭn* [F. *prétention*]: a claim, true or false; a holding out the appearance of right or possession; right alleged or assumed; in *OE.*, fictitious appearance. PRETEN'TIOUS, a. *-shŭs,* exhibiting attempts to pass for more than one's real value; presuming. PRETEN'TIOUSLY, ad. *-lĭ.* PRETEN'TIOUSNESS, n. *-nĕs,* the quality of being pretentious.—SYN. of 'pretense': pretext; excuse; pretension; mask; appearance; color; show; simulation; assumption; feint.

PRETENDER, OLD—and YOUNG: see STUART, CHARLES EDWARD LEWIS CASIMIR: STUART, ROYAL FAMILY OF.

PRETENSE: see under PRETEND.

PRETENSE', ESCUTCHEON OF; or ESCUTCHEON SURTOUT, in Heraldry: small shield in the centre of the field of another shield. The husband of an heiress may bear the arms of his wife in an escutcheon of pretense, instead of impaling them. Feudal arms are also sometimes placed on an escutcheon of pretense. From 1801 till the accession of Queen Victoria, the Hanoverian insignia occupied an escutcheon of pretense in the centre of the royal arms of the United Kingdom.

PRETER, *prē'tėr* [L. *præter*]: a prefix, signifying 'beside; beyond; by; past; more than.'

PRETERIMPERFECT, a. *prē'tėr-ĭm-pėr'fĕkt* [L. *præter*, beyond, and Eng. *imperfect*]: in *gram.*, a term applied to a tense with time not perfectly past—more usually called the *imperfect tense*, as, I wrote, or was writing.

PRETERIT, a., or PRETERITE, a. *prĕt'ėr-ĭt* [F. *prétérit* —from L. *præterĭtus*, gone past or by—from *præter*, beyond; *īrĕ*. to go: It. *preterito*]: in *gram.*, a term applied to a tense which denotes time complete or finished; called also the *past tense*. PRET'ERI'TION, n. *-ĭsh'ŭn,* the act of going past, or state of being past; in *rhet.*, the pretense to pass over anything, while at the same time we notice it briefly. PRETERITIVE, a. *prē-tĕr'ĭ-tĭv,* in *gram.*, applied to the preterit or past tenses of a verb.

PRETERMISSION, n. *prē'tėr-mĭsh'ŭn* [L. *præter*, beyond; *missus*, sent]: a passing by; an omission. PRETERMIT, v. *prē'tėr-mĭt'* [L. *mitto*, I send]: to pass by; to omit or neglect. PRE'TERMIT'TING, imp. PRE'TERMITT'ED, pp.

PRETERNATURAL, a. *prē'tėr-năt'ū-răl* or *-năt'chû-răl* [L. *præter*, beyond, and Eng. *natural*]: contrary to nature or the usual course of things; extraordinary. PRE'TERNAT'URALLY, ad. *-lĭ.* PRE'TERNAT'URALNESS, n. a state or manner different from the usual order of nature.

PRETERPERFECT, a. *prē'tėr-pėr'fĕkt* [originally *preterit-perfect*]: in *gram.*, a term applied to a tense which denotes time completely past or finished—now usually called *perfect tense.*

PRETERPLUPERFECT, a. *prē'tėr-plô-pėr'fĕkt* [L. *præter*, beyond, and Eng. *pluperfect*]: in *gram.*, more than perfect; designating the tense of a verb which expresses a time past before another past time, as, *I had written* before you arrived—usually called *pluperfect tense.*

PRETEXT, n. *prē'tĕkst* [F. *prétexte*—from L. *prætextum*, a pretense—from *præ*, before; *textus*, woven or plaited; *texĕrĕ*, to weave: Sp. *pretexto*, a pretext]: a pretense; an assumed reason, not the real one; a motive or reason assigned as a cover for concealing the real motive.—SYN.: pretense; semblance; disguise; appearance; reason; motive; color.

PRETOR, or **PRÆTOR**, n. *prē'tŏr* [L. probably contraction for *præitor*, from *præ-eo*, to precede, also to order]: among the ancient Romans, the title given to the consuls as leaders of the armies of the state; but it was employed specially to designate a magistrate whose powers were scarcely inferior to those of a consul. The pretorship, in this specific sense of the term, was instituted B.C. 366, as compensation to the patricians for being obliged to share with the plebeians the honors of consulship. It was virtually a third consulship; the P. was entitled *collega consulibus;* he was elected by the same auspices and at the same comitia. For nearly 30 years patricians alone were eligible for the office; but B C. 337, the plebeians made good their right to it also. The P.'s functions were chiefly judicial. Though he sometimes commanded armies, and, in the absence of the consuls, exercised consular authority within the city, yet his principal business was administration of justice in matters civil and criminal; and 'to the edicts of successive pretors,' says G. Long, 'the Roman law owes, in a great degree, its development and improvement.' Originally, there was only one P.; but as the city and state increased, and their relations with other nations became more complicated, others were added. B.C. 246, a second P. was appointed, to settle disputes that might arise between Romans and foreigners temporarily resident at Rome for trading or other purposes, hence called *prætor peregrinus* (foreign pretor), to distinguish him from the original *prætor urbanus* (city pretor). B.C. 227, two new pretors were appointed, to administrate affairs in Sicily and Sardinia; and B.C. 197 two more for the Spanish provinces, or six in all. Sulla increased the number to 8, and Julius Cæsar to 16. Augustus reduced the number to 12; but later we read of 18, if not more. The city-pretorships were reckoned the highest; and after a person had filled these offices, he sometimes received the administration of a province, with the title of *propretor* or *proconsul.* **PRETO'RIAL**, a. *prē-tō'rĭ-ăl*, and **PRETO'RIAN**, a. *-ăn*, pertaining to a pretor. **PRETO'RIUM**, n. *-ŭm*, the judgment-hall; the part of the camp in which the general or pretor had his tent. **PRETORSHIP**, n. *prē'tŏr-shĭp*, office of a pretor.

PRETORIAN (or PRÆTORIAN) BANDS [Lat. *Prætoriæ Cohortes*, and *Prætoriani*]: name, particularly during the Roman empire, of a body of soldiers, organized to protect the person and maintain the power of the emperors. We indeed read of a *prætoria cohors*, or select guard of the most valiant soldiers attached to the person of Scipio Africanus, who, according to Festus, received six-fold pay: and the exigencies of the civil wars naturally increased their number; but it was to Augustus that the institution of them as a separate force is owing. He formed nine or ten cohorts, each of a thousand men (horse and foot); but kept only three in Rome, the rest being dispersed in cities not far off. Tiberius, however, assembled the nine cohorts at the capital in a permanent camp, and Vitellius increased their number to 16. The Pretorians served at first for 12, afterward for 16 years; they received double pay; the privates were held equal in rank to centurions in the regular army, and on their retirement each received 20,000 sesterces. They soon acquired a dangerous power, which they exercised in the most unscrupulous manner, deposing and elevating emperors at their pleasure. Aspirants for the imperial dignity found it advisable, and even necessary, to bribe them largely; while those who acquired that dignity without their assistance were accustomed on accession to purchase their favor by liberal donations. The Pretorians, however, had no political or ambitious views; they were simply an insolent and rapacious soldiery, fond of substantial gratifications, and careless how they got them. After the death of Pertinax, A.D. 193, they actually sold 'the purple' for a sum of money to Didius Julianus; but in the same year their peculiar organization was entirely broken up by Severus, who formed new cohorts out of the best legions serving on the frontiers, which he increased to four times the number of the old. After several other changes, they were entirely abolished by Constantine (312), who dispersed them among his regular legions.

PRETTY, a. *prĭt'tĭ* [AS. *prætig*, tricky; *praet*, craft: Dut. *pratten*, to be haughty: Icel. *pretta*, to deceive: Ger. *protzen*, to sulk; *protzig*, insolent, saucy]: of a pleasing and attractive form; neatly arranged or ornamented; neat and pleasing, but not exactly beautiful; sly; crafty, as a *pretty* trick; in *contempt* or *irony*, fine; decent; excellent: AD. in some degree; tolerably; moderately; expressing a degree less than *very*, as *pretty* fair, *pretty* well done. PRET'TILY, ad. *-lĭ*, pleasingly; with neatness and taste. PRET'TINESS, n. *-nĕs*, the quality of being pretty; pleasingness without dignity; affectation of niceness; foppishness. PRETTY, in *Scot.*, brave; smart.—SYN. of 'pretty, a.': beautiful; handsome; lovely; fine; elegant; neat; pleasing; attractive; foppish; petty.

PRETYPIFY, v. *prē-tĭp'ĭ-fī* [*pre*, before, and *typify*]: to foreshow by a type; to prefigure.

PRETZEL, n. *prĕts'ĕl* [Ger. *prezel*]: hard brittle cake covered with salt: sometimes written Bretzel.

PREVAIL, v. *prĕ-vāl'* [L. *prævalērĕ*, to be very powerful or superior—from *præ*, before; *valĕo*, I am strong: It. *prevalere:* F. *prévaloir*]: to be in force; to overcome; to gain the victory or advantage; to have effect, power, or influence; to persuade or induce. PREVAIL'ING, imp.: ADJ. gaining the advantage or superiority; predominant; most common or general. PREVAILED', pp. *-vāld'*. PREVAIL'INGLY, ad. *-lĭ*. PREVAIL'MENT, n. in *OE.*, for PREVALENCE. PREVALENT, a. *prĕv'ă-lĕnt* [L. *prævalens* or *prævalen'tem*, very strong, very powerful: It. *prevalente*]: gaining advantage or superiority; predominant; powerful; current; most general. PREV'ALENTLY, ad. *-lĭ*. PREV'ALENCE, n. *-lĕns*, or PREV'ALENCY, n. *-lĕn-sĭ*, the condition or quality of being prevalent; the most general reception or practice; predominance; the most general existence.—SYN. of 'prevalent': predominant; prevailing; successful; efficacious; powerful; victorious.

PREVARICATE, v. *prĕ-văr'ĭ-kāt* [L. *prævarĭcātus*, having the legs very wide apart in walking, not having acted uprightly—from *præ*, before; *varĭcus*, with feet spread apart; *varus*, bent: It. *prevaricare:* F. *prévariquer*]: to turn from side to side; to evade the truth; to swerve from the truth; to quibble. PREVAR'ICATING, imp. PREVAR'ICATED, pp. PREVAR'ICATOR, n. *-kā-tĕr*, one who swerves from the truth; a quibbler. PREVAR'ICA'TION, n. *-kā'shŭn* [F.—L.]: a shuffling or quibbling to evade the disclosure of the truth; a cavil; in *law*, a collusive fraud in which the informer or prosecutor and the defendant make a sham prosecution.—SYN. of 'prevaricate': equivocate; quibble; shuffle; evade; pervert; shift; cavil.

PREVENIENT, a. *prē-vē'nĭ-ĕnt* [L. *præ*, before; *venĭens* or *venĭen'tem*, coming—from *venĭo*, I come]: in *OE.*, preceding; going before; preventive.

PREVENT, v. *prē-vĕnt'* [L. *præventus*, come or gone before—from *præ*, before; *venīre*, to come: It. *prevenire:* F. *prévenir*]: to stop or hinder, as the approach of a person, or the performance of something; to impede; to obstruct; in *OE.*, to go before; to succor; to anticipate; to go before as a guide; to preoccupy. PREVENT'ING, imp. PREVENT'ED, pp. PREVENT'INGLY, ad. *-lĭ*. PREVENT'ER, n. *-ĕr*, one who hinders. PREVENT'ABLE, a. *-ă-bl*, that may be stopped or hindered. PREVENTION, n. *prē-vĕn'shŭn* [F.—L.]: act of hindering; hindrance; obstruction of access or approach; in *OE.*, act of going before; preoccupation. PREVEN'TIONAL, a. *-ăl*, tending to prevent. PREVENT'IVE, a. *-ĭv*, tending to prevent or hinder; hindering the access of; preservative: N. that which intercepts the access or approach of; an antidote previously taken or employed. PREVENT'IVELY, ad. *-lĭ*. PREVENTIVE SERVICE, the coastguard, who protect the coast against smuggling; the duty or occupation of doing this.—SYN. of 'prevent': to impede; obstruct; hinder; anticipate; obviate; exclude; intercept; stop; thwart.

PREVEN'TION OF CRU'ELTY TO AN'IMALS: see ANIMALS; CRUELTY TO.

PREVEZA, *prā'vā-sâ*, or **Previsa**, *prā-vē'sâ:* busy trading town on the n. shore of the strait which forms the mouth of the Gulf of Arta. The Berlin Congress included P. in the part of Epirus to be restored to Greece; but at the rectification of the frontier, 1881, it was retained by Turkey, it being arranged that the fortifications should be destroyed. Pop. 8,000.

PREVIOUS, a. *prē'vĭ-ŭs* [L. *prævĭus*, going before, leading the way—from *præ*, before; *vĭa*, a way: It. *previo*]: going before in time; before something; foregoing; preceding. **Pre'viously**, ad. *-lĭ*. **Pre'viousness**, n. *-nĕs*, priority in time. **The previous question**, a method of moving the rejection of a question or motion in a deliberative assembly—a member gets a motion put, while another holding different views, without moving a direct negative, may simply move 'the previous question,' and the adoption of the latter motion secures the rejection of the former, or rather, forms a complete bar to any amendment, or discussion of the question.—Syn. of 'previous': preceding; antecedent; anterior; prior; foregoing; former.

PREVISION, n. *prē-vĭzh'ŭn* [F. *prévision*, foresight—from L. *præ*, before; *vīsus*, seen; *vidĕo*, I see]: foreknowledge; foresight.

PREVOST-PARADOL, *prā-vō'pâ-râ-dol'*, **Lucien Anatole**: French writer: 1829, Aug. 8—1870, July 20; b. Paris. He studied at the Collége Bourbon and the École Normale; 1851, obtained from the Académie the prize for eloquence, and was admitted Docteur-ès-lettres 1855. In that year he was named to the chair of French literature by the Faculty of Aix; but resigned it 1856, and became one of the editors of the *Journal des Débats*, writing generally the leading articles. His advocacy of a responsible ministry brought him into difficulties with the censorship. He was twice an unsuccessful candidate for a seat in the chamber. In 1865 he was elected a member of the Académie. Believing that the empire had at last adopted the principle of parliamentary government, he compromised his strong republican principles in 1870 so far as to fill the post of envoy at Washington; but undeceived by the disastrous events connected with the proclamation of war with Prussia, he died by suicide in New York. His chief works are—*Revue de l'Histoire Universelle*, 1854; *Essais de Politique et de Littérature*, 1859–63; *Quelques Pages d'Histoire Contemporaine*, 1862–66.

PREVOST'S THEORY, n. *prā-vōz' thē'ō rĭ* [after Pierre *Prevost*, Genevan physicist]: theory that all bodies radiate heat, the hotter giving off more and the colder less than they receive, till a mobile equilibrium is established among them.

PREWARN, v. *prē-wawrn'* [*pre*, before, and *warn*]: to warn beforehand.

PREY, n. *prā* [F. *proie*, prey, spoil—from L. *præda*, property taken in war: It. *preda*, plunder: W. *praidd*, a flock or herd, booty taken in war: Gael. *preachan*, a bird of prey]: that which is or may be seized to be eaten, as by a wild beast; spoil; booty; plunder: V. to rob or pillage; to seize and devour; to rest heavily on, as the mind; to waste gradually; to corrode. **Prey'ing**, imp. **Preyed**, pp. *prăd.* **Beasts of prey**, **Birds of prey**, animals that kill and feed on other animals.

PRIAM, *prī'am:* King of Troy at the time of the legendary Trojan war: son of Laomedon, and Strymo or Placia. The name P. (from *Priamai,* to ransom) was given him on account of his having been ransomed by his sister Hesione from Herakles, into whose hands he had fallen. His first wife was Arisbe, daughter of Merops, whom he gave away to a friend in order to marry Hecuba, by whom, according to Homer, he had 19 sons; but as he had other children than those by Hecuba, the epic poet gives him in all 50 sons; while later writers add as many daughters. The best-known of these are Hector, Paris, Deïphobos, Helenus, Troilus, and Cassandra. P. is represented as too old to take any active part in the Trojan war; and in Homer, only once appears on the field of battle. The oldest Greek legends—i.e., the Homeric, are silent respecting his fate; but the later poets—Euripides, Virgil, etc.—say that he was slain by Pyrrhus at the altar of Zeus Herkeios, when the Greeks stormed the city.

PRIAPISM, n. *prī'ă-pĭzm* [Gr. *Priāpos,* the god of gardens and fruitfulness, the virile member]: in *med.*, the more or less morbid and permanent erection of the penis.

PRICE, n. *prīs* [Bret. *prîz;* F. *prix;* OF. *pris*, *preis*—from L. *prĕtĭŭm,* the value or price: W. *prid*, value]: the equivalent paid for a thing; the current value of a commodity; the sum of money asked or paid for anything; the cost; value; recompense: V. to value or set a price on. **Pric'ing**, imp. **Priced**, pp. *prīst.* **Price'less**, a. *-lĕs,* invaluable; beyond price. **Price-current**, a table or list containing an account of the ordinary value or price, in different parts, of merchandise, stocks, etc. **Price of money**, an ambiguous expression, meaning occasionally the rate at which the precious metals are procured in exchange for other commodities; the ease or difficulty with which capital may be lent or borrowed—that is, the rate of the discounts; simply, the price of credit.—**Syn.** of 'price, n.': value; cost; expense; worth; equivalent; estimation; rate; excellence; reward; recompense.

PRICE, *prīs*, **Bonamy**: 1807, May 22—1888, Jan. 8; b. on the island of Guernsey: political economist. He graduated at Oxford Univ. 1829; was instructor in mathematics in Rugby School 1830–50; succeeded Prof. Thorold Rogers in the chair of political economy at Oxford 1868, and held the chair till his death. In 1874 he visited the United States and delivered addresses in the large cities in advocacy of hard money, and 1878 was pres. of the economical dept. of the Social Science Congress at Cheltenham, England. He published *The Principles of Currency* (1869); *Of Currency and Banking* (1876); and *Chapters on Practical Political Economy* (1878).

PRICE, Richard, D.D.: 1723, Feb. 23—1791, Apr. 19; b. Tynton, Wales. His father, Rice P., was a dissenting minister, possessed of some wealth, and remarkable for the intolerance of his Calvinism. A leading characteristic of the son's mind, on the other hand, was the calm resolution with which, from his youth, he both declared his own opinions and advocated freedom of thought for others. He declined to bend his convictions to paternal authority; and accordingly, on his father's death, he was so poorly provided for, that, going to study in London, he had to journey chiefly on foot. He obtained admission to a dissenting acad., where he acquired good knowledge of mathematics, philosophy, and theology. At the end of four years, he engaged himself as chaplain to a Mr. Streatfield, with whom he lived 13 years, and who at death left P. some property. This, with a bequest from an uncle 1756, enabled P. to marry. He then settled as a preacher at Hackney; but being shortly afterward chosen minister of a Dissenting congregation at Newington Green, he removed to that place, where he lived till the death of his wife 1786, when he returned to Hackney, at which place he had long officiated as morning-preacher to a congregation. Meanwhile, his life had been one of considerable literary and scientific activity. His *Review of the Principal Questions and Difficulties in Morals* (Lond. 1758), though heavy work, established his reputation as metaphysician and moralist. In 1769 the degree D.D. was conferred on him by the Univ. of Glasgow. In the same year, he published his *Treatise on Reversionary Payments;* followed by the compilation and publication of the celebrated *Northampton Mortality Tables*, and various other works relating to life-assurance and annuities—most valuable contributions to the science of life insurance. In 1776 appeared *Observations on Civil Liberty and the Justice and Policy of the War with America*. Of this work, 60,000 copies are said to have been sold in a few months. In the N. Amer. colonies it is said to have given great impulse to the advocacy of independence; and 1778 the American congress, through Franklin, communicated to Dr. P. their desire to consider him a fellow-citizen, and to receive his assistance in regulating their finances; an offer declined principally on the ground of age. P. was a believer in the immateriality of the soul, holding that it remained in a dormant state between death and resurrection. Difference of opinion on this subject led to a controversy of some celebrity between him and his friend Dr. Priestley. His views respecting the Son of God were known as Unitarian; but they were not Socinian, but of the high type known as Arian, verging toward the evangelical view. His moral character appears to have been singularly beautiful. 'Simplicity of manners,' says Dr. Priestley, 'with such genuine marks of perfect integrity and benevolence, diffused around him a charm which the forms of politeness can but poorly imitate.' See *Memoirs of the Life of Richard Price, D.D.*, by William Morgan, F.R S., Lond. 1815.

PRICE, Sterling: 1809, Sep. 11—1867, Sep. 29; b. Prince Edward co., Va.: milit. officer. He received a collegiate education and studied law; removed to Mo. 1830; was speaker of the legislature 1840–44 and member of congress 1844–46; distinguished himself in the Mexican war; was gov. of Mo. 1853–57; became maj.gen. of state militia 1861; failed to separate Mo. from the Union; recruited an army for the Confederate service and was appointed maj. gen.; defeated the Union army at Springfield 1861, Aug.; captured Lexington by siege Sep. 20; took part in the actions at Iuka, Pea Ridge, and Corinth; commanded the dept. of Ark. 1863–4; raided Mo. 1864, Sep., had several engagements with the Union forces, and was driven into s.w. Ark. After the war he went to Mexico, obtained a grant of land from Emperor Maximilian, and attempted to found an ex-Confederate colony; but the emperor's fall ruined his project and he returned to St. Louis to die.

PRICHARD, *prĭch'ĕrd*, **James Cowles, m.d.**: ethnologist and physician: 1786, Feb. 11—1848, Dec. 22; b. Ross, Herefordshire, England. His father, Thomas P., member of the Society of Friends, and merchant, had been married young, and was early left a widower with four children, on whose education he bestowed the greatest care. James Cowles, the eldest, was educated at home under private tutors. He learned Latin and Greek, French and Italian and Spanish—while his father taught him history, for which young P. showed strong predilection. At Bristol, where his father resided for a time, the boy showed his ethnological tendencies: on the quays, he met with foreigners from every country, and took much interest in observing their physical appearance, occasionally conversing with them in their native tongues. Returning to Ross, P. continued his studies there, till he turned to medical study, first at Bristol, afterward at St. Thomas's Hospital, London, finally at Edinburgh, where he took his degree m.d. Before commencing practice, however, he entered as student at Trinity College, Cambridge, where he read mostly mathematics and theology. Subsequently, he studied at St. John's College and Trinity College, Oxford. In 1810 he began practice in Bristol. In 1813 he published his first work, ***Researches into the Physical History of Mankind***, which at once gave him standing as an ethnologist. A second and enlarged ed., two vols., appeared 1826; a third, further improved and enlarged, in five vols., 1836–47. Dr. P. gave much study to philology, which he rightly judged indispensable to an enlarged study of ethnology. In a few years he became acquainted with the Teutonic and Celtic languages, with Sanskrit, Hebrew, and Arabic, showing a practical result of his studies in his work, *The Eastern Origin of the Celtic Nations* (Oxford 1831), in which he compared the different dialects of the Celtic with the Sanskrit, Greek, Latin, and Teutonic languages, and succeeded in proving a strong affinity between them all, from which he argued in favor of a common origin for all the peoples speaking those languages. His theory has met general acceptation; and the work in which it appeared, says Norris, 'is admitted by the most distinguished philologists to be unsurpassed in ability and soundness, while not a few deem it to be that which has made the greatest advance in comparative philology during the present century.' A previous work—*Analysis of Egyptian Mythology* 1819, was translated into German 1837, and edited by A. W. Schlegel, who, however, took occasion to dissent from some of the author's views. In 1843 Dr. P. published the first ed. of his *Natural History of Man*, 2 vols.: two other editions appeared during the author's lifetime; and a fourth, ably edited and enlarged, by Edwin Norris, 1855. Dr. P.'s other published works are mostly on medical subjects. Dr. P. was one of the early presidents of the Ethnological Soc.; and he received the govt. appointment of commissioner in lunacy; which occasioned his removal from Bristol to London, where he died. Dr. P.'s rank as the greatest of ethnologists, which, during his lifetime, was universally acknowledged, long remained undisturbed, notwithstanding difference of opinion as to his favorite doctrine of the unity of the human race, which he constantly upheld. He was the first to raise ethnology to the rank of a science, and he reared his own monument in his work, *The Physical History of Mankind.*

PRICK, n. *prĭk* [AS. *prica*, a point or sting: Dut. *prik*, a prick or stab: Icel. *prica*, to prick: W. *pric*, a skewer: Low Ger. *prikken*, to prick or stick]: a slender-pointed thing, hard and sharp enough to pierce the skin; a spine or thorn; the wound made or pain caused by it; a sharp stinging pain; remorse of conscience; a puncture; a mark at which archers aim; the print of the foot of a hare or a deer on the ground: V. to pierce or mark with a spine, or with a small thing having a sharp point; to erect a pointed thing, applied to the ears; to puncture as with a pin; to affect with remorse; to sting; to aim at a point; to make or become acid, as wine; in *OE.*, to spur; to impel; to incite. PRICK'ING, imp.: ADJ. stinging as with prickles: N. a sensation of sharp pain, as of being pricked; act of piercing with a sharp point. PRICKED, pp. *prĭkt*. PRICK'ER, n. *-ėr*, one who or that which pricks; a lancer or light horseman. PRICKET, n. *prĭk'ĕt*, a buck in his second year. PRICK-POST, in *arch.*, a post in wooden buildings framed intermediately between two principal ones. PRICK'ING-NOTE, n. a document delivered by a shipper of goods authorizing the receiving of them on board. So called from the practice of pricking holes in the paper corresponding with the number of packages counted into the ship. PRICK-PUNCH, a smith's tool for marking on iron. PRICK-SONG, a song sung from music pricked or written down. PRICKING-UP, in *arch.*, the first coating of lime and hair upon lath, the surface being scratched over with the trowel to enable the next coat to obtain a better hold. PRICKING THE SHIP OFF, in *nav.*, marking a ship's position on the chart.

PRICKLE, n. *prĭk'kl* [from PRICK, which see: Dut. *prikkel;* AS. *priccle,* a prickle or point]: small sharp-pointed shoot or spine growing from the bark of a plant or tree; loosely, a thorn; a sharp-pointed process or projection, as from the skin of an animal or the bark of a plant. In *bot.*, it is a strong and hard, elongated and pointed hair (see HAIRS, in Botany). The prickle is connected only with the bark, and not with the wood, in which it essentially differs from the spine or thorn. Prickles are sometimes straight, sometimes curved. They have often an extended base by which they are attached to the bark. **PRICK'LY**, a. *-lĭ*, full of prickles. **PRICK'LINESS**, n. *-lĭ-nĕs*, the state of having many prickles; the state of being prickly. **PRICKLY-BACK**, a small fish so named from the prickles on its back; the stickle-back.

PRICK'LY HEAT: popular name in India and other tropical countries for a severe form of the skin-disease known as *Lichen.* It more frequently attacks strangers from temperate climates than the natives, though the latter are not altogether exempt. The intense itching and stinging which it causes, occasion an almost irresistible desire to scratch, and scratching only aggravates the irritation. Little or nothing can be done in the way of treatment, except keeping as cool as possible; but remedies for LICHEN (q.v.) may perhaps slightly alleviate the symptoms.

PRICKLY PEAR, or INDIAN FIG (*Opuntia*): genus of plants of nat. order *Cacteæ* (q.v.), having a fleshy stem, generally of compressed articulations, sometimes of cylindrical articulations; leafless, except that the youngest shoots produce small cylindrical leaves, which soon fall off; generally covered with clusters of strong hairs or of prickles; the flowers springing from among the clusters of prickles, or from the margin or summit of the articulations, solitary, or corymboso-paniculate, generally yellow, rarely white or red; the fruit resembling a fig or pear, with clusters of prickles on the skin, mucilaginous, generally eatable—that of some species pleasant, that of others insipid. The fruit imparts a red color to the urine. The prickles of some species are so strong, and their stems grow up in such number and strength, that they are used for hedge-plants in warm countries.—The COMMON P. P., (*O. vulgaris*), native of Va. and more southern N. America, is now naturalized in many parts of s. Europe and n. Africa, and in other warm countries. It grows well on the barest rocks, and spreads over expanses of volcanic sand and ashes too arid for almost any other plant. It is of humble growth; its fruit oval, rather larger than a hen's egg, yellow, and tinged with purple; the pulp red or purple, juicy, and pleasantly combining sweetness with acidity. It is extensively used in many countries as a substantive article of food. In s. England the P. P. lives in the open air, and occasionally ripens its fruit. In America it is cultivated considerably n. of its native region. Lime rubbish is often mixed with the soil in which it is to be planted. The fruit is imported to some extent from the Mediterranean.—The DWARF P. P. (*O. nana*), very similar, but smaller, and having prostrate stems, is naturalized in Europe as far n. as the sunny slopes of the Tyrol.—The TUNA (*O. tuna*), much used in parts of the W. Indies as a hedge-plant, valuable also as one of the species which afford food to the cochineal insect, yields a pleasant fruit. It has red flowers, with long stamens which show a remarkable irritability.

PRIDE, n. *prīd* [AS. *pryte*, haughtiness: Ger. *pracht*, pomp, splendor: Icel. *prydi*, to adore—from PROUD, which see]: an unreasonably high opinion of one's own superiority; insolence; rude treatment of others resulting from inordinate self-esteem; in a *good sense*, the noble and exalted pleasure springing from a consciousness of worth, upright conduct, or acts of benevolence; generous elation of heart; that of which men are proud, or which may excite boasting; splendor; ostentation; in *OE.*, ornament; decoration; exaltation; in *her.*, term used in reference to a peacock, or other bird, which, when the tail is spread out in a circular form, and the wings dropped, is said to be 'in his pride': V. to rate high; to value, as to pride one's self. PRID'ING, imp. PRID'ED, pp. PRIDE'FUL, a. *-fûl*, full of pride; insolent.—SYN. of 'pride, n.': arrogance; conceit; hauteur; haughtiness; lordliness; loftiness; self-exaltation; vanity; self-esteem; show; ostentation; insolence; elevation; dignity.

PRIDEAUX, *prĭd'ō*, HUMPHREY, D.D.; English scholar and divine: 1648, May 3—1725, Nov. 1; b. Padstow, Cornwall; of an ancient and honorable family. He was educated first at Westminster School, under Dr. Busby; afterward at Christ Church, Oxford, where he took the degree M.A. 1673. In 1676 he published an account of the Arundel Marbles, under the title *Marmora Oxoniensia*, which greatly increased his fame as a scholar. In 1679 he was appointed rector of St. Clement's at Oxford; 1681, a prebendary of the cathedral of Norwich. After several minor preferments he was collated, 1688, to the archdeaconry of Suffolk; and, 1702, was made Dean of Norwich. His principal works are, his *Life of Mahomet* (1697), long very popular, now entirely superseded; and *The Connection of the History of the Old and New Testament* (1715–18), which treats with much learning, but less discernment, the affairs of ancient Egypt, Assyria, Persia, Judea, Greece, and Rome, as connected with sacred prophecy. P. was a zealous 'Low' churchman, most conscientious in discharge of his own duties, equally anxious that others should do theirs, and possessed of considerably more piety than was usual in his age.

PRID'EAUX, JOHN: soldier: 1718–1759, July 19; b. Devonshire, England; second son of Sir John P. He entered the British army at an early age, and was successfully promoted capt., col., and brig.gen. He was in the battle of Dettingen under George II. 1743. In 1759 Pitt gave him one of the four commands to be sent against the French in Canada. July 7 he attacked Fort Niagara, but on the 19th, while superintending work in the trenches, he was killed by the bursting of a gun. Four days after, the fort surrendered to his successor, Sir William Johnson.

PRIDE OF INDIA, or PRIDE OF CHINA, or BEAD TREE: see MELIACEÆ.

PRIE-DIEU, n. *prē-dĭ-ė'* [F. pray God]: kneeling desk for prayers.

PRIEF, n. *prēf:* OE. for PROOF.

PRIEGO, *prē-ā'gō:* town of Andalusia, Spain, 45 m. s.e. of Cordova. There are oil-mills, flour-mills, tanneries, and potteries. There were formerly very important silk manufactures. Pop. (1877) 15,674.

PRIESSNITZ, *prēs'nĭts,* VINCENZ: founder of Hydropathy (q.v.): 1799, Oct. 5—1851, Nov. 28; b. Gräfenberg (q.v.) in Austrian Silesia. He was son of a peasant-proprietor, and received at the school of Freiwaldau an education suitable to his station, and afterward farmed his paternal estate. It appears that a neighbor, who had been in the way of healing trifling wounds on himself and others by means of cold water, treated P. successfully in this way for a serious injury from the kick of a horse; and P., having thus had his attention directed to the virtues of cold water, and being indisputably possessed of great sharpness of intellect and aptitude for the healing art, began to give advice to his neighbors how to cure various ailments with cold water, and soon attained considerable reputation among them. Although several times brought before the authorities for unlicensed practicing, the simplicity of the means that he used made it impossible to interfere with him. As the number of applicants for advice increased, he gradually came, by experimental modifications of the way of applying his remedy, to form a kind of system of treatment for the various cases that presented themselves. At last, about 1826, strangers began to repair to Gräfenberg, and stay there for treatment; in 1829 there were as many as 49 water-patients, and 1837 the number had risen to 586. P. continued farming till 1833; but after that, his practice, and the care of the establishments which he had to provide for reception and treatment of his patients, fully occupied him. At his death he left his establishment to his son-in-law. Very different judgments have been pronounced on the character of P. and his system of treatment, mostly according to the prejudices of the critics. He himself has left nothing in writing on his method of cure; but undeniably the practical results were very successful. See HYDROPATHY.—Wunde, *Die Gräf. Wasserheilanstalt und die P.'sche Curmethode* (6th ed. Leip. 1845).

PRIEST, n. *prēst* [OF. *prestre;* AS. *preóst*, a priest—corrupted from L. *pres'byter;* Gr. *presbu'tĕros*, an elder—from Gr. *presbus*, old]: in *anc. times* or in *pagan countries*, one who performed the rites of sacrifice: in the *Chh. of Rome* and *Gr. Chh.*, the lowest order of ecclesiastics empowered to consecrate the Host and perform Mass; in the *Prot. Episc. Chh.*, one of the intermediate order between bishop and deacon; a clergyman authorized to celebrate the Holy Communion (see below). PRIEST'ESS, n. *-ĕs*, in *anc. times*, a woman who officiated in a temple. PRIEST'LY, a. *-lĭ*, becoming a priest; sacerdotal; belonging to a priest. PRIEST-LIKE, a. pertaining to or resembling a priest. PRIEST'LINESS, n. *-nĕs*, the appearance and manner of a priest. PRIEST'CRAFT, n. trickery and frauds practiced by priests to obtain wealth, influence, or power. PRIEST'HOOD, n. the collective body of priests; office or character of a priest. PRIEST-RIDDEN, a. influenced or governed by priests.

PRIEST: in its most general signification a minister of public worship; applied specially to the minister of sacrifice or other mediatorial offices. The etymology of the word does not show its history; inasmuch as the original idea of the word *presbyter* (or elder) as connected with the Hebrew synagogue, was early overlaid with other ideas connected with pre-Christian temple-worship, Jewish or heathen, which last ideas were, it is claimed by some, made by apostolic authority part of the meaning of the word. In the English version of the New Testament the Christian presbyters are termed not priests but elders or bishops; the 'priests' are the ministers of the Jewish or of a pagan worship. In the early history of mankind, the functions of the P. seem to have been discharged usually by the head of each family; but with the expansion of the family into the state, the office of P. became a public one, which absorbed the duties as well as the privileges which before belonged to the heads of the separate families or communities. It thus came to pass that in many instances the priestly office was associated with that of the sovereign, whatever might be the particular form of sovereignty. But in many religious and political bodies, also, the two orders were maintained in complete independence, and the priests formed a distinct, and, generally speaking, a privileged class (see *Egyptian Priests, Indian Priests*, below). The priestly order, in most of the ancient religions, included a graduated hierarchy; and to the chief, whatever his title, were assigned the most solemn of the religious offices intrusted to the body. In sacred history, the patriarchal period furnishes an example of the family priesthood; while in the instance of Melchizedec, King of Salem, is found the union of the royal with the priestly character. In the Mosaic law, the whole theory of the priesthood as a sacrificial and mediatorial office is fully developed. The priest of the Mosaic law stands in the position of a mediator between God and the people; and even if the sacrifices which he offered be regarded as but typical and prospective in their moral efficacy, the priest must be considered as administering them with full authority in all that regards their legal value. The Mosaic priesthood was the inheritance of the family of Aaron, of the tribe of Levi. It consisted of a High-priest (q.v.), and of inferior ministers, distributed into 24 classes. The age for admission to the priesthood is nowhere expressly fixed; but from II Chron. xxxi. 17, it appears that the minimum age was 20. In the service of the temple, the priests were divided into 24 classes, each of which was subject to a chief priest, and each company served for a week in rotation. Their duties in the temple consisted in preparing, slaying, and offering victims; in preparing the shew-bread, burning the incense, and tending the lights of the sanctuary. Outside, they were employed in instructing the people, attending to the daily offerings, enforcing the laws regarding legal uncleanness, etc. For their maintenance were set aside certain offerings (see FIRST-FRUITS) and other gifts. They wore a distinguishing dress, the chief characteristics of which were a white tunic, an embroidered cincture, and a turban-shaped head-dress. The Jewish priesthood may be said to have practically ceased with the destruction of the temple; after which time the prophets, usually not of the priesthood, and who were occasionally raised up from among the people, were the organs of religious and moral leadership and instruction.

In the Christian dispensation, the name primitively given to the public ministers of religion was *presbyteros,* of which the English name 'priest' is but a form derived through the old French or Norman *prestre.* The name given in classical Greek to the sacrificing priests of the pagan religion, Gr. *hiereus,* Lat. *sacerdos,* is not found in the New Testament explicitly applied to ministers of the Christian ministry; but very early in ecclesiastical use, it appears as an ordinary designation; and with all those bodies of Christians, Rom. Catholics, Greeks, Syrians, and other Orientals who regard the Eucharist as a sacrifice (see MASS), the two names have been applied indiscriminately. The priesthood of the Christian church is one of the grades of the Hierarchy (q.v.), second in order only to that of bishop, with which order the priesthood has many functions in common. The P. is regarded as the ordinary minister of the Eucharist, whether as a sacrament or as a sacrifice; of baptism, penance, and extreme unction; and though the contracting parties are held in the modern schools to be themselves the ministers of marriage, the P. is regarded by all schools of Roman divines as at least the normal and official witness and agent of its celebration. The P. is also officially charged with instruction of the people and direction of their spiritual concerns; and by long-established use, special districts, called Parishes (q.v.), are assigned to priests, within which they are intrusted with the care and supervision of the spiritual wants of all the inhabitants. The holy order of priesthood can be conferred only by a bishop, and he is ordinarily assisted by two or more priests, who, in common with the bishop, impose hands on the candidate. The rest of the ceremonial of ordination consists in investing the candidate with the sacred instruments and ornaments of his order, anointing his hands, and reciting certain prayers significative of the gifts and the duties of the office. The distinguishing vestment of the P. is the *chasuble* (Lat. *planeta*). In Rom. Cath. countries, priests wear even in public a distinctive dress, which, however, in most respects is common to them with the other orders of the clergy. In the Latin Church, priests are bound to a life of celibacy. In the Greek and Oriental churches, married men may be advanced to the priesthood; but no one is permitted to marry after ordination, nor is a married P. permitted to marry a second time, should his wife die.

In the Church of England, and other Reformed Episc. churches, the term P. is retained as the designation of the second order of clergy, whose special office it is (1) to celebrate the Sacrament of the Lord's Supper; (2) to pronounce the forms of Absolution in the Morning and Evening Prayer, in the Communion Service, and in the Office for the Visitation of the Sick; (3) to preach, though this last office is, by special license, often extended to deacons.

Priests only can hold a benefice with cure of souls. The age for admission into the priesthood is 24 years. (For the manner and ceremonies of admission, see ORDINATION.) Priests in the Church of England are ordinarily distinguished during divine service by a black stole of silk worn upon the surplice over both shoulders; deacons, according to the ancient use, wearing it over one shoulder only. Marriage is permitted in the Church of England to all orders of the clergy.

Egyptian Priests.—In the political division of ancient Egypt, the population is supposed to have been divided into three or four castes, at the head of which was the sacerdotal, or priests. This division, however, was not very strictly observed, as the son did not invariably follow the profession of the father. That of the P. appears most honorable; and two principal classes of priests were in existence at the earliest periods—the *hont*, or prophets, and the *ab*, or inferior priests. The first were attached to the worship of all the deities of Egypt; and in the greater cities, there was *hont api*, high prophet, or high-priest, who presided over the others: at Thebes there were as many as four prophets of Ammon. Their duties appear to have comprised the general cultus of the deity. They also interpreted the oracles of the temples. Besides the prophets of the gods, others were attached to the worship of the king, and to various offices connected with administration of the temples. The class of priests called *ab*, or 'pure,' were inferior, and were also attached to the principal deities and to the personal worship of the monarch. They were presided over by a supt., but had no high-priest. A third class of priests, the *karheb*, appear in connection with funeral and other ceremonies, and some other inferior persons of the hierarchy. The *scribes* formed a caste apart, but those who were attached to the temple were of the priestly order. Besides these above mentioned, the Greeks enumerate a variety of sacred officials. The administration of the temples by the hierarchy was as follows: the temple was governed by a supt., or *epistetes*, called in Egyptian *mer*, either the high P. or a prophet. Under him was a vicar, and a royal officer, called *epimeletes*, or overseer, by the Greeks. These attended to the receipts and expenses. Lay brethren, or *hierodules*, attended and assisted the priests in their functions; and in addition to these, there were a kind of monks in the Serapeium, who lived within the precincts of the temple, which they were not allowed on any account to quit. At Alexandria, under the Ptolemies, there was a P. of Alexander the Great, and others attached to the worship of the deceased Ptolemies; also one attached to the worship of the living monarch. This priest, it appears, was nominated by the king himself, and drew a revenue from the different temples of Egypt. He was at this period the high P. of the whole country, and had no doubt superseded the former high P. of Ptah at Memphis, and of Amen-Ra at Thebes, who had formerly exercised a kind of Pontificate. On solemn occasions a synod of the priests was held for purposes affecting the whole body. Some light has been thrown on the relative dignities of the hierarchy by the hieroglyphical inscription on a statue of Bakenkhonsou, a high P. of Amen-Ra, now at Munich. At the age of 16, he held a civil employment under Sethos I.; he was then made P. *ab* of Amen-Ra, which office he exercised for four years; after this he rose to the rank of 'divine father' of the god, which office he held for 12 years; after that, he became third prophet of the same deity for 15 years; then second prophet for 12 years; and finally, at the age of 59, chief prophet or high P. of the god—held the post for 27 years, and died at the age of 86. The youthful age at which offices were held has its probable explanation in the careful education which the young priests had to undergo, and the habits required for the order. They were required to be scrupulously neat and clean, entirely shaven, clad in linen, and shod with papyrus sandals, and to maintain a rigid diet, in which was a careful abstaining from pork, mutton, beans, and salt, to which was added a bath twice a day, and other ablutions. They also fasted, and one of their fasts lasted 42 days; others even longer; they then lived on vegetable food alone, and exercised rigid continence. They were not unmarried, but were allowed one wife. Their support was derived from various sources —as from royal and other endowments of the temples, from the gifts of votaries, and from charges on the produce of the country. On festivals, not only were they often clad in fine linen, but the addition of a panther-skin was often added to their attire; and they were anointed with perfumes and unguents. They offered water and burning incense. Although Herodotus has stated that no woman was a priestess in Egypt, many functions connected with the temples were held by women. The most important was that of 'divine wife of Amen-Ra,' called by Diodorus the *pallakis*, or concubine, of Jupiter, which was conferred on queens and princesses only. Another title was that of 'divine hand' or adorer of the same god, a rank also held by royal personages. During the 4th dynasty, at the time of Cheops and the pyramids, there were prophetesses; but the order does not appear to have been kept up, for at a later period there appear only the *sua*, or singing women of the gods, and the *aha*, or performers, of the principal deities, who attended with *sistra* at the festivals. Besides these, other women had charge of certain things connected with the temple, and *canephoroi*, or basket bearers. They had no distinctive dress and were often the wives of prophets or other priests.—Boeck, *Corp. Inscr. Græc.*, p. xxix. 303; Schmidt, *De Sacerdot. Ægyptior.;* Wilkinson, *Manners and Customs*, i. 257; Devéria, *Monument de Bakenkhonsou* (Paris 1862).

Indian Priests.—The priesthood of India belongs to the first caste, or that of the Brâhman'as exclusively; for no member either of the Kshattriya or the Vais'ya, or the S'ûdra caste is allowed to perform the functions of a P. But as the proper performance of such functions requires, even in a Brâhman'a, knowledge of the sacred texts to be recited at a sacrifice, and of the complicated ceremonial of which the sacrificial acts consist, none but a Brâhman'a learned in one or more Vedas (q.v.), and versed in the works treating of the ritual (see KALPA-SUTURA), possesses, according to the ancient law, the qualification of a P.; and so strict in ancient times were the obligations imposed on a P., that any defective knowledge on his part, or any defective performance by him of the sacrificial rites, was supposed to entail on him the most serious consequences both in this life and in the future. As the duration of a Hindu sacrifice varies from one to a hundred days, the number of priests required at such a ceremony is likewise stated to be varying; again, as there are sacrificial acts at which verses from the R'igveda only were recited, others requiring the inaudible muttering of verses from the Yajurveda only; others, again, at which verses only of the Sâmaveda were chanted; and others, too, at which all these three Vedas were indispensable—there were priests who merely knew and practiced the ritual of the R'igveda, or the Yajurveda, or the Sâmaveda; while there were others who had a knowledge of all these Vedas and their rituals. The full contingent of priests required at the great sacrifices amounts to 16. Other inferior assistants at a sacrifice, such as the ladle-holders, slayers, choristers, and the like, are not regarded as priests. Such was the staff of priests required at the great and solemn sacrifices, which took place on special occasions, and could be instituted only by very wealthy people; from one to four priests, however, sufficed at the minor sacrifices, or those of daily occurrence. These were the rules and practices when the Hindu ceremonial obeyed the canon of the Vaidik ritual; and the latter probably still prevailed at the epic period of India, though many deviations from it are perceptible in the Mahâbhârata and Râmâyan'a (q.v.). But at the **Paurân'ik** period, and from that time onward, when the study of the Vedas had fallen into disuse, and the Vaidik rites had made room for other ceremonies which required no knowledge on the part of a P., except that of the reading of a prayer-book, and an acquaintance with the observances enjoined by the Purân'as, but easy to go through, almost every Brâhman, not utterly ignorant, became qualified to be a priest.—For the priesthood of the Buddhists, Jainas, and Tibetans, see BUDDHISM: JAINAS: LAMA.

PRIESTLEY, *prēst'lĭ*, JOSEPH, LL.D.: English philosopher, man of science, and preacher: 1733, Mar. 13, O.S.—1804, Feb. 6; b. Fieldhead near Leeds, in the W. Riding of Yorkshire; son of Jonas P., cloth-draper. Motherless at the age of six, he was adopted by an aunt, by whom he was sent to a free school. There he learned Latin and Greek. During vacation, he taught himself various languages, both ancient and modern. For some time he was obliged to abandon his studies, owing to weak health: he then betook himself to mercantile pursuits. With returning strength, his literary studies were resumed, and successfully prosecuted at a dissenting academy at Daventry under Mr. (afterward Dr.) Ashworth, successor to Dr. Doddridge. Though his father and aunt were strong Calvinists, they were tolerant of the views of others, and their house was the resort of many men who held very different opinions; and the theological discussions which young P. was in the habit of hearing seem to have had much effect on him: before he was 19 years of age he calls himself rather a believer in the doctrines of Arminius, but adds: 'I had by no means rejected the doctrine of the Trinity or that of the Atonement.' Before leaving home, he wished to join a Calvinistic communion; but he was refused admission, on the ground that he had stated doubts on some theological points relative to future punishment. During his residence at the academy, he conceived himself called on to renounce nearly all the theological and metaphysical opinions of his youth. 'I came,' he says, 'to embrace what is called the heterodox side of every question.' In 1755, he became minister to a small Presb. congregation at Needham Market, Suffolk, with an average salary of £30 per annum. While here, he composed his work *The Scripture Doctrine of Remission, which shows that the Death of Christ is no proper Sacrifice nor Satisfaction for Sin.* His leading theological doctrine seems to have been, that the Bible is indeed a divine revelation, made from God to man through Christ, himself a man and no more, nor claiming to be more. He seems to have rejected all theological dogmas which appeared to him to rest solely on the interpretation put on certain passages of the Bible by ecclesiastical authority. Even the fundamental doctrines of the Trinity and of the Atonement he did not consider warranted by Scripture, when read by the light of his own heart and understanding. It does not appear that his theories produced in him any morally evil results. He not only contrived to live on £30 a year; but by adding a little to his income by means of teaching, he was enabled to purchase a variety of instruments to help him in his scientific studies.

In 1758 he quitted Needham for Nantwich; and 1761 he removed to Warrington, where he was appointed successor to Mr. (afterward Dr.) Aikin, as teacher of languages and belles-lettres. At Warrington, he married Miss Wilkinson, a lady of great talent and amiability. Here his literary career fairly began. A visit to London led to his making the acquaintance of Dr. Franklin and of Dr. Price. The former supplied him with books which enabled him to write *History and Present State of Electricity*, pub. 1767. It was followed by a work on *Vision, Light, and Colors*. In 1762 he published *Theory of Language and Universal Grammar*. In 1766 he was made a member of the Royal Soc., and a doctor of laws by the Univ. of Edinburgh. In the following year he removed to Millhill, near Leeds, where he was appointed minister of a dissenting chapel: here his Arian views became more definitely modified into Socinianism. The fact of a brewery being beside his dwelling gave a new direction to his energetic and versatile mind; he began to study pneumatic chemistry, publishing various important works connected with this science. 'No one,' says Dr. Thomson, 'ever entered on the study of chemistry with more disadvantages than Dr. Priestley, and yet few have occupied a more dignified station in it.' While at Leeds, he agreed to accompany Capt. Cook on his second voyage; but certain ecclesiastics of the church of England having objected to the latitude of his theological views, the Board of Longitude refused to sanction the arrangement, and he did not go. In 1773 he was appointed librarian and literary companion to Lord Shelburn, with a salary of £250 per annum, and a separate residence: he accompanied the earl on a continental tour 1774. Having been told by certain Parisian savans that he was the only man they had ever known, of any understanding, who believed in Christianity, he wrote, in reply, *Letters to a Philosophical Unbeliever*, and various other works, containing criticisms on the doctrines of Hume and others. His public position was rather a hard one; for while laughed at in Paris as a believer, at home he was branded as an atheist. To escape the odium arising from the latter imputation, he published 1777 his *Disquisition relating to Matter and Spirit*. In this work, while he partly materializes spirit, he partly spiritualizes matter, so that his 'matter' being refined, his 'materialism' is something different from what is ordinarily known by that name. He holds, however, that our hopes of resurrection must rest solely on the truth of the Christian revelation, and that on science they have no foundation whatever. The doctrines of a Revelation and a Resurrection appear with him to have supported one another: he believed in a Revelation, because it declared a Resurrection; and he believed in a Resurrection, because he found it declared in the Revelation. On leaving Lord Shelburn, he became minister of a dissenting chapel at Birmingham. The publication 1786 of his *History of Early Opinions concerning Jesus Christ*, occasioned the renewal of a controversy, which had begun 1778, between him and Dr. Horsley, concerning the doctrines of Free

Will, Materialism, and Unitarianism. The victory in this controversy will probably be awarded by most men in accordance with their own views on the questions at issue. His reply to Burke's *Reflections on the French Revolution* led to his being made a citizen of the French Republic; and this occasioned a mob which broke into his house, and destroyed all its contents, books, manuscripts, scientific instruments, etc. He states that the sum awarded to him as damage fell £2,000 short of the actual pecuniary loss. A brother-in-law, however, about this time left him £10,000, with an annuity of £200. In 1791 he succeeded to the charge at Hackney, which had become vacant by the resignation of Dr. Price. He did not remain long however: his honestly-avowed opinions had made him as unpopular as an honest avowal of opinions generally does. He removed to America, where he was received with respect, if not with enthusiasm. He had the offer of the professorship of chemistry at Philadelphia, which he declined. In 1796 his wife died. To the day of his death, he pursued his literary and scientific pursuits with as much ardor as at any period of his active life. He died expressing his satisfaction with his having led a life so useful, and his confidence in immortality. At Paris, his *éloge* was read by Cuvier before the National Institute. He has given us his autobiography to 1795, Mar. 24. He was a man of irreproachable moral and domestic character, remarkable for zeal for truth, patience, and serenity of temper. He was fearless in proclaiming his convictions, whether theological, political, or scientific. See Memoirs of his own life, continued by his son with observations by T. Cooper: also life by John Corry.

PRIESTS of the Oratory: see Oratory, Congregation of the.

PRIEVE, v. *prēv:* OE. for Prove.

PRIG, n. *prĭg* [origin unknown: perhaps a corruption of Eng. *pragmatical*, officious, meddling]: a conceited pert fellow; a conceited stuck-up person; in *slang*, a thief: V. in *slang*, to filch or steal; in *Scot.*, to beat down the price of a commodity. Prig′ging, imp.: N. in *slang*, thieving. Prigged, pp. *prĭgd*, in *slang*, stolen. Prig′gery, n. *-ėr-ĭ*, or Prig′gism, n. *-ĭzm*, the manners or practices of a thief or of a pert fellow. Prig′gish, a. *-ĭsh*, conceited; affected; coxcombical. Prig′gishly, ad. *-lĭ*. Prig′gishness, n. the state of being priggish or conceited.

PRILOUKY, or Priluki, *prē-lô′kĭ:* district town of Little Russia, govt. of Poltava, 150 m. n.w. of the town of Poltava. Tobacco, corn, cattle, and tallow are principal articles of trade, and are sold on the spot to dealers for export to Moscow, St. Petersburg, Riga, Poland, and abroad. The climate is good, and the soil fertile. The principal industry is cultivation of tobacco. Pop. (1880), 12,878.

PRIM, a. *prĭm* [OF. *prim*, prime, forward—from L. *primus*, first: Scot. *primp*, to deck one's self in a stiff and affected manner]: carefully kept in order; trim; affectedly nice; precise; formal: V. to deck with affected nicety. PRIM'MING, imp. PRIMMED, pp. *prĭmd*. PRIMLY, ad. *-lĭ*, in a precise manner; neatly. PRIM'NESS, n. *-nĕs*, the state of being prim; affected formality; preciseness. PRIMSIE, a. *prĭm'zĭ*, in *Scot.*, demure.

PRIM, *prēm*, JUAN, Marquis DE LOS CASTILLEJOS, Count DE REUS: 1814, Dec. 6—1870, Dec. 30; b. Reus, Catalonia: milit. officer. He entered the Spanish army at an early age; served through the first Carlist war; was promoted col. 1837; soon afterward was elected to the cortes; opposed the administration of Espartero; fled to France under accusations of conspiracy 1842; aided Narvaez in overthrowing Espartero 1843; and was rewarded by the returned Queen Maria with the title of count, rank of gen., and milit. command of the capital. In 1844 Narvaez had him accused of treason and he was sentenced to 6 years' imprisonment; but he received the queen's pardon and the governorship of Porto Rico. He led the Progresista party in the cortes 1848–53; was a volunteer in the Turkish Danubian campaign 1853–4; commanded the Spanish army in Morocco 1859–60, and received the title of marquis for his great victory in the battle of Los Castillejos; and commanded the Spanish contingent in the allied intervention in Mexico 1861, from which he soon withdrew. In 1864 he was banished from Madrid, and immediately began plotting for the overthrow of Queen Isabella, which was accomplished 1868, Sep. He then became commander-in-chief of the army, and head of the cabinet in the provisional govt. His offer of the crown of Spain to Prince Leopold of Hohenzollern led to the Franco-German war 1870–1. Through his influence the cortes elected Prince Amadeus (q.v.) of Italy king of Spain, and on the day the prince landed at Barcelona (1870, Dec. 28), P. was attacked by assassins in Madrid, and two days afterward died of his wounds.

PRIMA, a. *prē'mă* [L. *prīmus*, first]: first; chief. PRIMA-DONNA, n. *prē'mă-dŏn'nă* [It. *prima*, first; *donna*, lady]: the principal female singer of an operatic company.

PRIMACY: see under PRIMAL.

PRIMA FACIE, phrase, *prī'ma fā'shĭ-ē* [L.]: at first sight or appearance.

PRIMAGE, n. *prī'māj* [see PRIM: OE. *prime*, to trim, to dress]: in *commerce*, an allowance paid to the master and sailors of a ship for loading or unloading a cargo, and for the use of cables and ropes.

PRIMAL, a. *prī'măl* [mid. L. *primālis*, chief—from L. *prīmus*, the first: It. *prīmo*]: first; early; the earliest or original. **PRI'MARY**, a. *-mė-rĭ* [L. *primārĭus*, chief]: first in order of time or formation; first in place, rank, or importance; original; principal; preparatory or lowest in order, as schools or political assemblies: N. that which is first or highest in rank; opposed to secondary. **PRI'MARIES**, n. plu. *-ĭz*, the stiff feathers or quills in the last joint of the wing of a bird. **PRI'MARILY**, ad. *-ĭ-lĭ*, in the first place; chiefly. **PRIMATES**, n. plu. *prī-mā'tēz*, an order of animals in Linnæus's system, including man, monkeys, and bats (see below). **PRIMARY COLORS**, red, yellow, and blue—so called because all the others are derived from them; the colors of the rainbow—red, orange, yellow, green, blue, indigo, and violet. **PRIMARY** (or **PRIMITIVE**) **LIMESTONE**, name formerly given to crystalline limestones, because it was supposed that they belonged to the oldest primary deposits. But as it is now known that many of these limestones are of much later origin, some even as late as the Tertiary period, the name has fallen into disuse: see MARBLE. **PRIMARY PLANETS**, the planets which revolve around the sun as their centre, as distinguished from the satellites. **PRIMARY QUALITIES OF BODIES**, such qualities as are inseparable from them. **PRIMARY ROCKS**, in *geol.*, all slaty and crystalline strata, as roofing-slate, mica-schist, and gneiss, very hard and compact, and wholly destitute of organic remains; paleozoic rocks—i.e., all the stratified formations from the most ancient to the Permian epoch.

PRIMARIUS, *prī-mā'rĭ-ŭs:* originally a Latin adjective signifying *first.* The word came to be used in a substantive sense in ecclesiastical matters, as denoting the cornerstone of a church; as referring to the head of a religious house or community. It has only recently been adopted into the English language.

PRI'MARY, in Politics: meeting of voters to initiate political action within a certain limited area as a township or ward, by choosing candidates to be voted for, or by appointing delegates to conventions for nominating candidates. The several parties have each its own P., the members of which must be (1) qualified voters, (2) approved supporters of the party. The knowledge and interest of voters and party members, in small places, give reasonable security for an honest organization and management of the P., but in larger areas, and notably in great cities, persons who combine, with self-seeking aims, and engage in politics as a trade, can readily control the organization of the P., making it virtually a corrupt club, from which the mass of honest voters are absent, either by their own negligence or by refusal to them of recognition. It is part of the craft of corrupt politics to call and hold the P. in such manner as to deter honest voters from attending, and to bring in by fraud persons not entitled to act. Some states have sought by statutes to secure the P. against corrupt control, but no system of reform has yet reached the root of the evil.

PRIMATE, n. *prī'măt* [L. *primas* or *primātem*, a chief: It. *primate:* F. *primat*]: chief ecclesiastic in a national church; an archbishop. **PRI'MATESHIP**, n. the office or dignity of a primate. **PRI'MACY**, n. *-mă-sĭ*, the chief ecclesiastical dignity in a national church; the office or dignity of an archbishop. **PRIMATIAL**, a. *prī-mā'shal*, pertaining to a primate. **PRIMATE OF ENGLAND**, the Archbishop of York. **PRIMATE OF ALL ENGLAND**, the Archbishop of Canterbury.—*Primate* is the title of that grade in the hierarchy immediately below the rank of patriarch. The title strictly belongs to the Latin Church, but in its general use it corresponds with that of exarch (Gr. *exarchos*) in the Greek Church, though there were some exarchs who were not immediately subject (as were all primates) to a patriarch. This arose in the Eastern Church from the variation in the limits of the patriarchates, which were not of simultaneous origin, but in the West, where the patriarch (i.e., the Roman bishop) was recognized as possessing universal jurisdiction, this exemption of any particular P. from superior jurisdiction could not arise. The P., as such, was the head of a particular church or country, and held rank, and, in some churches, a certain degree of jurisdiction, over all bps. and abps. within the national church. This jurisdiction, however, was confined to the right of visitation and of receiving appeals. In Africa, the Bp. of Carthage, without the title, possessed all the rank and authority of a P. The chief primatial sees of the West were: in Spain, Seville, and Tarragona, afterward united in Toledo; in France, Arles, Rheims, Lyon, and Rouen (among whose bps. the Abp. of Lyon claims the title *Primat des Primats*, 'Primate of the Primates'); in England, Canterbury; in Germany, Mainz, Salzburg, and Trier; in Ireland, Armagh, and for the Pale, Dublin; in Scotland, St. Andrews; in Hungary, Gran; in Poland, Gnesen; and in the northern kingdoms, Lund.

In Ireland the Abp. of Armagh is P. of all Ireland, and the Abp. of Dublin P. of Ireland. The title of P. in England and Ireland confers no jurisdiction beyond that of abp. The name *primus* is applied in the Scottish Episc. Church to the presiding bp.; he is chosen by the bishops out of their own number, without their being bound to give effect to seniority of consecration or precedency of diocese.

PRIMATES, *prī-mā'tēz:* name given by Linnæus to the first order of Mammalia in his system, and which he placed first, because he ranked man among them, and accounted them highest in the scale of nature. He assigned as the characters of the order, incisor teeth in the front of the mouth, four in the upper jaw, in one row; mammæ two, pectoral. In this order he placed four genera, *Homo* (in which he included man and the orang-outang), *Simia*, *Lemur*, and *Vespertilio;* corresponding to the *Bimana* (Man alone), *Quadrumana*, and *Cheiroptera* of Cuvier. That many of the P. of Linnæus really occupy a higher place, either as to organization or as to intelligence, than many other Mammalia, is more than doubtful.

PRIME, a. *prīm* [F. *prime*—from L. *prīmus*, first: It. *primo*]: first; original; chief; first in quality or importance; first-rate; excellent; early; in *OE.*, forward: N. the first part; early morning; the best part; the spring of the year or life; full health and beauty; utmost perfection, as of life: V. to put powder in the pan of a firearm; to lay on the first color in painting; to prepare. PRI'MING, imp.: N. the powder put in the pan of a gun; first coat of painting; hot water carried over with the steam from the boiler into a cylinder. PRIMED, pp. *prīmd*, full and ready, as with information; intoxicated. PRIMELY, ad. *prīm'lĭ*, originally; in the first place. PRIME'NESS, n. *-nĕs*, supreme excellence. IN HIS PRIME, a familiar phrase denoting the period of full development of body, or from 25 to about 45. PRIME EQUIVALENT, atomic or combining weight. PRIME MESS, the second quality of pickled pork, in which the barrels contain the hams and shoulders as well as the sides. PRIME MINISTER, the head or chief minister of a state. PRIME MOVER, in *mech.*, a natural force applied to the production of power, such as muscular force, the weight and motion of fluids, etc.: engine or piece of mechanism which receives and modifies force or motion in order to apply them to drive other machines (see WORK: FORCE: MOTION: MECHANICAL POWERS). PRIME NUMBER, any number divisible only by itself or unity. PRIME VERTICAL, in *astron.*, the vertical circle which passes through the east and west points of the horizon. PRIMING-WIRE, a pointed wire used to clear the touch-hole of a gun.

PRIME, a. *prīm* [F. *prime*—from L. *prīma hōra*, the first hour; *prīmus*, first]: first part; beginning: N. first canonical hour for the reciting of an office in the Roman Breviary at about daybreak (see CANON): it is the first of the so-called 'lesser hours' of the BREVIARY (q.v.). It may be called the public morning-prayer of that church, and corresponds in substance with the morning service of the other ancient liturgies, allowance being made for Latin peculiarities. P. commences with the beautiful hymn of Prudentius, *Jam lucis orto sidere*, which is followed by three (occasionally four) psalms, the last portion of which consists of the opening verses of Ps. cxviii. (in the authorized version, Ps. cxix.), which is continued throughout the rest of the 'lesser hours.' P. concludes with prayers appropriate to the beginning of a Christian's day.

PRIME, *prim,* Benjamin Young, m.d.: 1733, Dec. 20—1791, Oct. 31; b. Huntington, N. Y.: poet and linguist. He graduated at Princeton 1751, and served as tutor there 1756–7. He studied medicine at Leyden, Holland, giving much time also to the study of languages. In 1764 he began the practice of medicine in New York, and the same year published a volume of poems, *The Patriot Muse* (London). He was author of many popular patriotic songs during the revolution and a short time before his death published (1791) *Columbia's Glory*, a poem of that stirring time. He died at Huntington, leaving unpublished poems translated from a number of languages.

PRIME, Edward Dorr Griffin, d.d.: pastor, editor, and author: 1814, Nov. 2—1891, Apr. 7; b. Cambridge, N. Y.; bro. of Dr. S. Irenæus P. He graduated at Union Coll. 1832, and Princeton Seminary 1838; was pastor of the Presb. church at Scotchtown, N. Y., 12 yrs. beginning 1839; after 1853 one of the editors, subsequently one of the owners of the *New York Observer*, with an interval of chaplaincy at Rome 1854–5, and of foreign travel 1869–70. He published *Around the World; Forty Years in the Turkish Empire* (memoir of the missionary William Goodell, d.d.); and a genealogical work on the Prime family

PRIME, Samuel Irenæus, d.d.: editor and author: 1812, Nov. 4—1885, July 18; b. Ballston, N. Y.; bro. of Dr. Edward D. G. P. He was but 13 years of age when he entered Williams Coll., graduating there 1829, and afterward at Princeton Seminary. After Presb. pastorates in Ballston and Matteawan, N. Y., he became associate ed. of the *New York Observer* 1840, and senior ed. 1858. He was widely known for his interesting contributions to that paper signed 'Irenæus,' as well as for his genial personal qualities. He published *Travels in Europe and the East* (1855); *Letters from Switzerland* (1860); *Memoirs of the Rev. Nicholas Murray* (1862); *The Alhambra and the Kremlin* (1873); *The Old White Meeting House* (1845); *Life in New York* (1845); *Annals of the English Bible* (1849); *Thoughts on the Death of Little Children* (1850); *The Power of Prayer* (1859), with sketch of the Fulton st. prayer meeting; *The Bible in the Levant* (1859); *Fifteen Years of Prayer* (1872); *Under the Trees* (1874); *Life of S. F. B. Morse* (1874). His history of the Fulton st. prayer-meeting was translated into foreign languages, and reached a sale of 175,000 copies. He held many honorable offices, e.g., corr. sec. Amer. Bible Soc., vice-pres. Amer. Tract Soc., corr. sec. Amer. Evangelical Alliance, pres. of New York Assoc. for the Advancement of Science and Art, and trustee of colleges. He died at Manchester, Vt.—His son, Wendell P., d.d., now one of the editors of the *N. Y. Observer*, is author of *Fifteenth Century Bibles, a Study of Bibliography* (1888); and edited *Autobiography and Memorials of the Rev. S. Irenæus Prime, D.D.*

PRIME, WILLIAM COWPER, LL.D.: journalist: 1825, Oct. 31; b. Cambridge, N. Y., youngest child of the Rev. Nathaniel Scudder P. He graduated at Princeton 1843, studied law, and was admitted to the bar 1846. He continued the practice of his profession until 1861, when he purchased an interest in the *New York Journal of Commerce* with which he is still connected (1891, Mar.). He was its editor-in-chief 1861–69. He has travelled extensively in Europe, Egypt, and Palestine. Beside his correspondence for the paper covering more than 40 years, he published *Owl Creek Letters* (1848); *The Old House by the River* (1853); *Later Years* (1854); *Boat Life in Egypt and Nubia* (1857); *Tent Life in the Holy Land* (1857); *Coins, Medals, and Seals* (1861); *I go a Fishing* (1873); the hymn *O Mother Dear, Jerusalem,* with notes (1865); *Holy Cross*, a history of the invention, etc. of the wood known as the true cross (1877); *Pottery and Porcelain of all Times and Nations* (1878); and he edited *McClellan's Own Story,* with biography (1886).

PRIME MERID'IAN: meridian from which longitude is reckoned. An international convention of delegates from 25 nations met at Washington, 1884, Oct. 1, in response to an invitation by the pres. of the United States, the previous year, addressed to foreign governments, 'for the purpose of fixing upon a meridian proper to be employed as a common zero of longitude and standard of time reckoning throughout the globe.' A resolution was introduced by L. M. Rutherford of N. Y. (the U. S. delegates concurring), 'that the conference proposes to the governments here represented the adoption of the meridian passing through the transit instrument at the observatory of Greenwich as the initial meridian for longitude.' In favor of the resolution votes were cast by the delegates from Austria Hungary, Chili, Colombia, Costa Rica, Germany, Great Britain, Guatemala, Hawaii, Italy, Japan, Liberia, Mexico, Netherlands, Paraguay, Russia, Salvador, Spain, Sweden, Switzerland, Turkey, United States, and Venezuela. San Domingo voted against it, and Brazil and France did not vote. Denmark did not send her promised delegation. Previously, 1883, Nov. 18, the railway system of time meridians, five, six, seven, and eight hours w. of Greenwich, had been adopted as the most convenient. The plan of fixing points of change from one standard hour to the next based on Washington time, had been considered but was found impracticable. The decision of the conference, moreover, conforms to the charts in use by 75 per cent. of the commerce of the world. The estimated cost of the plates from which all these charts are printed is $10,000,000.

PRIMER, n. *prĭm'ėr* or *prī'mėr* [L. *prīmus*, first]: a child's first reading-book.

PRIMERO, n. *prĭm-ē'rō* [Sp.]: in *OE.*, a game at cards.

PRIMER-SEISIN, *prī'mėr-sē'zĭn* [*prime*, and *seisin*]: *formerly*, the right of the sovereign in certain cases to receive from an heir one year's profits of the lands; claim to be first served.

PRIMEVAL, a. *prī-mē'văl* [L. *prīmus*, first, original; *ævum*, an age]: being of the earliest age or time; first; original.

PRIMIGENIAL, a. *prī'mĭ-jē'nĭ-ăl*, or **PRIMIGENOUS**, a. *prī-mĭj'ĭ-nŭs* [see PRIMOGENIAL]: first-born; original; first formed or generated.

PRIMINE, n. *prī'mĭn* [L. *prīmus*, first]: in *bot.*, the first or outermost covering of the ovule.

PRIMITIVE, a. *prĭm'ĭ-tĭv* [F. *primitif;* It. *primitivo*, primitive, first—from L. *primĭtīvus*—from *prīmus*, first]: of or belonging to remote or early times; ancient; pristine; old-fashioned; denoting that from which others are derived or formed: N. an original word; a word not derived from another. **PRIM'ITIVELY**, ad. *-lĭ*. **PRIM'ITIVENESS**, n. *-nĕs*, the state of being primitive or original; antiquity. **PRIMITIVE COLORS** (see PRIMARY COLORS, under PRIMAL). **PRIMITIVE ROCKS** (see PRIMARY ROCKS, under PRIMAL).—SYN. of 'primitive, a.': ancient; original; beginning; formal; primary; not derived; first; radical; pristine; antique; old-fashioned; antiquated.

PRIM'ITIVE METH'ODISTS, or **PRIM'ITIVE WES'LEYANS**: see METHODISTS.

PRIMNESS: see under PRIM.

PRIMO, a. *prē'mō* [It.]: in *music*, the first or leading part.

PRIMOGENIAL, a. *prī'mō-jē'nĭ-ăl* [L. *primigenius*, first of all, first of its kind—from *prīmus*, first; *gigno*, I beget; Gr. *gen'năō*, I produce or bring forth]: first-born; original; primary: PRIMIGENIAL, the correct but less usual spelling. **PRI'MOGEN'ITOR**, n. *-jĕn'ĭ-tėr*, the first father; the forefather. **PRI'MOGEN'ITURE**, n. *-ĭ-tūr* [F. *primogéniture*, birthright—from L. *prīmus; genĭtūra*, a begetting]: seniority of birth; right which under some systems of law belongs to the eldest son and his heir to succeed to property or to an estate (see below). **PRI'MOGEN'ITURESHIP**, n. the state or right of the first-born son. **PRIMOGEN'ITIVE**, n. *-ĭ-tĭv*, OE. for PRIMOGENITURE.

PRIMOGEN'ITURE: right by law under which the eldest son of the family succeeds to the father's real estate in preference to, and in absolute exclusion of, the younger sons and all the sisters. This is the rule adopted in Britain and in most European countries; though the policy of the rule is now much disputed, and the contrary example of France pointed to as an example or a warning, according to the theory advocated. The rule operates as follows: whenever a man dies intestate, leaving real estate—i.e., lands and houses—his eldest son is the only person entitled by law to the whole; and if the other brothers and the sisters are not otherwise provided for out of the personalty, they are left destitute. If the eldest son is dead, but has left an eldest son, such grandson of the deceased, in like manner, succeeds to the whole landed property exclusively, and so on, following in succession, the eldest sons of eldest sons, and their next eldest sons, one by one, in their order of seniority. But when the male line is exhausted, then females do not succeed in the same way singly and by seniority, but all together succeed jointly. Such is the rule in England and Scotland. The preference of males to females was also the Jewish rule and the Greek rule, or at least that which prevailed at Athens; but it was unknown to the Romans. It is generally said that the English preference of males took its origin from the feudal system, by which the devolution of land depended on the personal ability of the party to perform military service. The Danish ancestors of the English seem not to have acknowledged any preference of the males, but the Saxons did so. See CUSTOM: BOROUGH ENGLISH: GAVELKIND: INHERITANCE: ETC.

The evils said to be attendant on the law of P. are alleged to be, that it often produces great hardship, by making one of the family enormously rich, and the others very poor, thereby introducing a sense of inequality and injustice among those who are apt to believe themselves equals by the law of nature. It also tends to encourage the accumulation of landed property in a few hands, and thereby cuts off the great mass of the people from the gratification of a natural desire and from one incentive to industry—viz., the acquisition of a portion of the soil. On the other hand, it is said that the cases of hardship in reality seldom occur, for, especially in modern times, an equal amount of personal property is often held by the same owners, and the rule does not apply to personalty, which is equally divided among all the children. Moreover, the great landowners seldom die intestate, but almost invariably provide for their younger children by means of charges or burdens on the family estate, and so counteract the effect of the law of P. The accumulation of landed property is said to be not an evil, but the contrary, for it enables agriculture to flourish, inasmuch as the larger the farms, the greater is the capital required, and the greater benefit to the land, and ultimately to the public. The law of P. in England does not allow land to be locked up for a greater period than the lives of persons in existence, and for 21 years more, after which the parties entitled can sell or bring the lands into the market at their discretion; so that it is not correct to say that the accumulation of land in the great families is caused by the law of P., for practically each successive generation can do what it likes with the property, and squander it at will. It is only by operation of the natural feelings of family pride that the family estates are kept together in a family. The mode in which this is practically done in England is as follows: the peer or head of the family being tenant for life, and the inheritance being entailed upon his eldest son, who is about to marry, the father and son take the proper legal steps (which they can always do jointly) for unsettling the estate, and obtaining the absolute dominion over it. They then proceed to resettle the estate, making the father as before tenant for life, then the son is reduced in his turn to a tenant for life also, after the father, instead of, as before, being tenant in tail, or full proprietor. Thus, the maintenance of the family dignity is secured for another generation by settling the inheritance on the eldest male issue of the intended marriage; and when the grandson attains the age of 21, or is about to marry, he and his father repeat the same action toward the next generation. The English law of landed property has been said to answer admirably all the purposes to which it is applicable, for a testamentary power is given which stimulates industry, and encourages accumulation; and while capricious limitations, such as perpetual entails (see ENTAIL), are restrained, property is allowed to be molded according to the circumstances and wants of every family.—To one accustomed to the usages and laws in the United States regarding landed estate, the arguments for P. seem of little weight.

PRIMORDIAL, a. *prī-mŏr'dĭ-ăl* [It. *primordiale;* F. *primordial*, original—from L. *prīmordĭālis*, first of all—from *prīmus*, first; *ordĭor*, I commence]: existing from the beginning; first in order; original; in *bot.*, earliest formed, applied to the first true leaves given off by the young plant, also the first fruit produced on a raceme or spike: N. origin; first principle or element. **PRIMORDIAL UTRICLE**, the lining membrane of cells in their early state.

PRIMOR'DIAL PERIOD, in Geology: lowest grand division of the Silurian age. It has been termed also the POTSDAM PERIOD, from Potsdam, N. Y., where the Potsdam Sandstone is well displayed. By some geologists it is named Cambrian, and is so given in Hitchcock's recent map; but others extend Cambrian to include the Trenton and Hudson periods. As Cambrian is debatable, and Potsdam has another, more restricted use, Primordial is preferable. The P. P. is divided into the Potsdam Sandstone and Calciferous epochs; and the Potsdam Sandstone is subdivided into the Potsdam Sandstone proper and the Acadian group—the latter the lowest rocks in which fossils are found, in N. America at least (if *Eozoon* be excepted), and named by Prof. Dawson from Acadia, the old name of Nova Scotia, where he first determined and described the group. It has been identified in e. Mass., e.g., at Braintree, and in e. Tenn. and N. C.; and is remarkable as exhibiting, at the first display of life on the globe, all the classes of mollusca except the lowest (the lamellibranch bivalves), even the highly developed cephalopods; also crustacean trilobites of great size; further remarkable by the presence of several genera of brachiopods which have continued through all the alleged transformations of life until now. Other fossil remains are sea-weeds, crinoids, graptolites, and worm-holes. The Potsdam Sandstone added lamellibranchs, but the low polyps do not appear in either group. The rocks of the P. P. are sandstones and shales, with some limestones, and are found in Nova Scotia, and along the St. Lawrence; extending down and encircling the old Adirondack Archæan peninsula; likewise n., s., and w. of Lake Superior, and surrounding another Archæan peninsula or island

in Wis.; and on the s. side of still another in Minn., where the rock is known as Sioux quartzite (sometimes erroneously called jasper and even granite); also in beds of great thickness along the Alleghanies to central Ala., and in patches of the Rocky Mt. region and n.w. coast. The Sioux quartzite is of beautiful purplish red, very durable, takes a fine polish, and is much quarried and worked at Sioux Falls. The old Iron Mt. islands in Mo., of Archæan age, are likewise surrounded by rocks of the Primordial period.

PRIMROSE, n. *prĭm'rōz* [popularly derived from F. *prime rose*, L. *prima rosa*, the first rose: certainly a corruption of Norm. F. *prime-role;* OE. *pryme rolles*, a primrose: mid. L. *primula veris;* F. *primevère*, the first flower of spring: Sp. *primula*], (*Prĭmula*): genus of plants of the nat. order *Primulaceæ*, having a bell-shaped or tubular 5-toothed calyx, a salver-shaped corolla with five segments, five stamens, a globose germen containing many ovules, and a many-seeded capsule opening by five valves, and generally with ten teeth at the apex. The species all are herbaceous perennials, generally having only radical leaves; and the flowers in a simple umbel, more rarely with scapes bearing solitary flowers. Almost all are natives of Europe and n. Asia. Some are among the finest ornaments of groves and meadows; some are found in mountainous regions. Their fine colors and soft delicate beauty have led to the cultivation of some of them as garden flowers, probably from the beginning of floriculture.—The COMMON P. (*P. vulgaris*), abundant in woods, hedgebanks, and pastures in Britain and in most parts of Europe, has obovate-oblong, wrinkled leaves, and single-flowered scapes; the flowers about an inch broad, yellowish-white. This is the plant to which the English name P. specially belongs. Akin to it is the COWSLIP (q.v.), or PAIGLE (*P. veris*), and perhaps still

Common Primrose (*Primula vulgaris*).

more nearly related is the OXLIP (*P. elatior*), apparently wild in parts of England, particularly in the e. counties, but supposed by some botanists to be intermediate between the Common P. and the Cowslip, which they therefore regard as extreme forms of one species.—The POLYANTHUS (q.v.) is a cultivated variety of the Cowslip.—The AURICULA (q.v.) (*P. auricula*), an Alpine species, is a favorite garden flower.—The BIRD'S EYE P. (*P. farinosa*) and the SCOTTISH P. (*P. Scotica*) are flowers of exquisite beauty, found in n. Britain; the latter chiefly on the coasts of Sutherland, Caithness, and the Orkney Islands. The Alps and the Himalaya Mountains produce several species.—The CHINESE P. (*P. Sinensis*) has for many years been very common in Britain: it produces compound umbels of very numerous lilac or white flowers, which are displayed in autumn, winter, and spring. PRIMROSE, a. gay; flowery.

PRIM'ROSE LEAGUE: league of British subjects having for its objects 'the maintenance of religion, of the estates of the realm, and of the imperial ascendancy of the British empire,' according to the principles of which Lord Beaconsfield was exponent. It works by means of habitations, of which there were (1886) 1,200 in the United Kingdom, India, Africa, and the British possessions generally. It gave the conservative party great assistance in the general election 1885.—On Primrose Day, anniversary of the death of the Earl of Beaconsfield (1881, Apr. 19), every member of the P. L. wears a bunch of primroses, the earl's favorite flower.

PRIMULA'CEÆ: nat. order of exogenous plants, containing more than 200 known species, natives mostly of temperate and cold regions. They all are herbaceous, or scarcely half-shrubby, with leaves generally all radical, and no stipules. The calyx is generally 5-cleft, inferior, or half-superior, regular, persistent; the corolla, with the limb divided into as many segments as the calyx, rarely wanting; the stamens inserted on the corolla, one opposite to each of its lobes; the ovary one-celled, the style solitary, the stigma capitate; the capsule with a central placenta and many seeds.—Many of the P. have flowers of much beauty, and some are very fragrant, e.g., the Primrose, Cowslip, Auricula, Pimpernel, Loosestrife, etc.

PRIMUM MOBILE, *prī'mŭm mō'bĭ-lē* [L. *prīmum*, first; *mōbĭlĕ*, movable thing]: the first movement; the mainspring; in the *Ptolemaic system of astron.*, the tenth sphere, which revolved from e. to w. in 24 h., carrying all the other spheres with it: see PTOLEMAIC SYSTEM.

PRIMUS, a. *prī'mŭs* [L.]: first; chief: N. the presiding bishop in the Scotch Episcopal Church.

PRIMY, a. *prī'mĭ* [see PRIME]: in *OE.*, blooming.

PRINCE, n. *prĭns* [F. *prince*, a prince: It. *principe*—from L. *princeps* or *princĭpem*, a chief, a leader—from *prīmus*, first; *căpĭo*, I take]: sovereign of a state or territory: title inferior to that of a king; the son of a king or emperor; a chief. The term was applied to the *princeps senatûs* of the Roman state, and afterward became a title of dignity. It was adopted by Augustus and his successors; hence the word was afterward applied to persons enjoying kingly power, especially the rulers of small states, either sovereign, as in the case of the ancient Princes of Wales, or dependent, like the rulers of certain states in Germany. The title is now generally applied to the sons of kings and emperors, and persons of the blood-royal. In various parts of continental Europe, the title P. is borne by families of eminent rank, but not possessed of sovereignty; and in England, a duke is, in strict heraldic language, entitled to be styled 'High Puissant and most Noble Prince;' and a marquess or earl as 'Most Noble and Puissant Prince.' Practically, however, in Britain, the term P. is restricted to members of the royal family. The eldest son of the reigning sovereign is by a special patent created Prince of Wales (q.v.), and this is the only case in which the title P. is connected with a territorial distinction. In Germany the ambiguity of applying the same title to the members of royal houses and of princely families not sovereign, is avoided, the former being styled 'Prinz,' the latter 'Fürst;' though in the English translation the ambiguity reappears, both titles being rendered Prince. The German Fürst takes rank below the Duke (Herzog). Most of the counts who had a seat in the old German diet were elevated to the dignity of P. on their acquiescence in the dismemberment of the German empire. In a more general acceptation, the term P. is often used for a sovereign, or the ruler of a state. **PRINCE**, v. in *OE.*, to play the prince. **PRINCESS**, n. *prĭn'sĕs*, wife of a prince; daughter of a king. **PRINCE'DOM**, n. *-dŭm*, the sovereignty, rank, or jurisdiction of a prince. **PRINCE'LY**, a. *-lĭ*, resembling or becoming a prince; high-born; stately; dignified; royal; very large, as a fortune; splendid, as an entertainment: AD. in the manner of a prince. **PRINCELINESS**, n. *-lĭ-nĕs*, the quality of being princely; the state or dignity of a prince. **PRINCE'S FEATHER**, n. flower, variety of Amaranth (q.v.), the *Amăran'thus hyp'ochondrī'ăcus*. **PRINCE'S METAL**, mixture of copper and zinc, imitating gold. **PRINCE CONSORT**, husband of a female sovereign.

PRINCE, THOMAS: 1687, May 15—1758, Oct. 22; b. Sandwich, Mass.: Congl. minister, and author. He graduated at Harvard 1707; spent several years travelling and preaching in foreign lands; was ordained asst. pastor of the Old South Church, Boston, 1718, Oct. 1; and continued in the pastorate there till his death. While a student he began collecting manuscript documents relating to New England history, a part of which, stored in the tower of the church, was destroyed by the British 1775–6, and the remainder with many of his books was deposited in the Boston Public Library. Besides sermons and addresses and 3 vols. of a projected *Chronological History of England*, published by the Mass. Hist. Soc., he published 29 separate sermons (1717-56); *An Account of the First Aurora Borealis* (1717); *Account of the English Ministers at Martha's Vineyard* (1727); *A Sermon on the Death of Cotton Mather* (1728); *Memoirs of Roger Clap* (1731); introduction and notes to John Mason's *History of the Pequot War* (1736); *Thanksgiving Sermon on the Capture of Louisburg* (1745); *Earthquakes of New England* (1755); and *The New England Psalm-Book, Revised and Improved* (1758).

PRINCE EDWARD ISLAND: province of the Dominion of Canada, in the s. of the Gulf of St. Lawrence, and separated from New Brunswick and Nova Scotia by the Strait of Northumberland 9 to 30 m. wide; lat. about 45° 56′—47° 4′ n., long. 62°-64° 23′ w.; length, 130 m.; breadth, 4 to 34 m.; 2,173 sq. m. Pop. (1841) 47,034; (1871) 94,021; (1881) 108,928. The surface is undulating; but few of the hills, the chief of which are in the middle of the island, and extending n. to s., are more than 300 ft. in height. The coasts are girdled by a bold line of red sandstone cliffs, varying in height from 20 to 100 ft., and are indented with numerous bays and inlets, several of which, as Cardigan Bay on the e., entrance to Georgetown, and Hillsborough Bay on the s., entrance to Charlottetown (q.v.—cap. of the colony), are deep and spacious, and afford safe anchorage for large vessels. Other inlets are Bedeque and Egmont bays on the s., and Holland, Richmond, and St. Peter's bays on the n. The rivers are short. The soil, well watered with numerous springs and streams, rests upon red sandstone, and consists mostly of a layer of vegetable matter above a light loam, which rests upon stiff clay above sandstone. It is of great fertility, and the agricultural products are about double the quantity required for local consumption. Of the whole area, 1,360,000 acres, 1,300,000 acres are 'good' land, and 60,000 acres are 'poor' land; there were under crop (1881) 467,211 acres, in pasture 126,935 acres. Since the passing of the Land Purchase Act (1875) for converting leasehold into freehold estates, the area of cultivated land has largely increased. The progress of the island has on the whole been steady, especially in agriculture. P. E. I. has excellent reputation for potatoes of first-class quality, of which about 3½ million bushels are produced in a single year: potatoes with buckwheat, hay, and oats, are the most remunerative crops. The climate, milder than that of the continental regions in the vicinity, and free from the fogs which prevail on Cape Breton and Nova Scotia, is very healthful. P. E. I. is extremely poor in minerals; copper and bog-iron ore are known to exist in small quantities. In the neighboring waters are extensive and profitable fisheries: the fish caught are principally mackerel, salmon, alewives, or gaspereaux (of the herring family), herrings, cod-fish, and hake. But the most important industry is catching and curing mackerel, and tinning or canning lobsters for exportation. About 50 factories, employing 2,000 people, are engaged in preserving lobsters for export. Manufactures are not important, though a little cloth is made. The P. E. I. railway, 198 m. in length, was opened 1875. It is of 3 ft. 6 in. gauge, and cost about £3,300 (= $16,000) per m. In the three years 1879–81, the value of exports varied from $1,830,000 to $1,730,000, and the imports from $835,000 to $965,000. The provincial govt. is vested in a lieut.gov., a house of assembly, a legislative council, and an executive council appointed by the lieut. gov. The legislature of P. E. I. declined to agree to the plan for a union of the British N. Amer. colonies which resulted from the negotiations begun in 1864; but at last, 1873, this colony entered the Confederation, and became one of the provinces of the Dominion. Charlottetown, provincial cap., had pop. (1881) 11,485. P. E. I. possesses about 350 vessels of nearly 60,000 tons. There are in the province a college, a normal school, 20 grammar schools, and 500 district schools. Tuition is practically free in all but the college. Of the pop. (1881) there were reported Rom. Cath. 47,115; Presb. 33,835; Meth. 13,485; Chh. of England 7,192; Bapt. 6,236. The lieut.gov. is appointed by the gov.gen. of Canada, and besides having its local govt., the island is represented in the Dominion parliament. The island is divided into 3 counties—Prince, Queen's, and King's counties—whose chief towns are respectively Summerside, Charlottetown, and Georgetown. All parts of the island are traversed by coach-roads; and there is a telegraphic system, partly submarine. The railway crosses the island, connecting Charlottetown with Tignish on the n.w., and Georgetown and Souris on the s.e. The island—discovered (possibly by Sebastian Cabot 1497) by Jacques Cartier 1534, June 24, and by him named Isle St. Jean—was taken into possession by the British first in 1745, and was retaken by them from the French and finally annexed to their possessions 1758, and received its present name 1799.

PRINCE'ITE: see AGAPEMONE.

PRINCE OF WALES: title borne by the eldest son of the sovereign of England. The native sovereigns of Wales were so designated in the days of Welsh independence; and on the conquest of Wales, the principality of Wales and earldom of Chester were bestowed by Henry III. on his son, afterward Edward I., but as an office of trust and govt., rather than as a title. It is traditionally related that Edward I. engaged to give the Welsh people a prince who would be born among them, and not know a word of English, and fulfilled the promise by bestowing the principality on his infant son, Edward, b. at Caernarvon Castle. Edward, by the death of his elder brother, became heir-apparent. Edward III., his son, was never P. of W.; but 1343, he invested his son Edward the Black Prince with the principality, and from that time the title P. of W. has been borne by the eldest son of the reigning sovereign. The title is, however, not inherited, and has usually been bestowed by patent and investiture, though, in a few instances, the heir to the throne has become P. of W. simply by being so declared. The eldest son of the sovereign is by inheritance Duke of Cornwall, a title conferred first 1337 on Edward the Black Prince, on the death of his uncle, John of Eltham, last Earl of Cornwall; and held, according to the terms of the grant, by the first-begotten son of the king. The title Earl of Chester, borne by Edward III. before his accession to the throne, has since been given with the principality of Wales. That earldom was, by 21 Richard II. c. 9, erected into a principality; and it was enacted that it should be given in future to the king's eldest son—a precedent which has since been followed, though that statute, with all others in the same parliament, was repealed by 1 Henry IV. c. 3. On the death of a P. of W. in his father's lifetime, the title has been conferred on the sovereign's grandson, or next younger son, being heir-apparent. As heir of the crown of Scotland, the eldest son of the sovereign is Prince and High Steward of Scotland, Duke of Rothesay, Earl of Carrick, Baron of Renfrew, and Lord of the Isles. The high office held by the House of Stuart (see STUART, HOUSE OF) became merged in the crown when Robert II., representative of the family, ascended the throne of Scotland 1371. The earldom of Carrick was conferred by Robert II. on his eldest son. The dukedom of Rothesay was created by a solemn council at Scone 1398, and conferred on David, eldest son and heir of Robert III.; and when David, 1402, fell a victim to the ambition of his uncle, it was transferred to his brother James, afterward James I. of Scotland. Renfrew was the chief patrimony of the Stewards of Scotland, to whom it was granted by the sovereign of the 12th c., their principal residence having been in the burgh of Renfrew. In 1404 King Robert III. granted the barony of Renfrew and other portions of the estates of the Stewards to his son and heir, James, since which time the eldest son of the sovereign has borne the title Baron of Renfrew. By act of the Scottish parliament 1469, the titles of Prince and High Steward of Scotland, Duke of

Rothesay, Earl of Carrick, Baron of Renfrew, and Lord of the Isles were vested in the eldest son and heir-apparent of the crown of Scotland for ever. The present P. of W. was created Earl of Dublin 1849, Sep. 10; that dignity being destined to him and his heirs, kings of the United Kingdom of Great Britain and Ireland, for ever.

By a statute of the order of the Garter, 1805, the P. of W. becomes a knight of the Garter as soon as he receives that title.

In 1788, on the illness of George III., it was made a question whether the P. of W. was not, as heir-apparent, entitled to the regency; the recovery of the king prevented the necessity for a decision, but it is now held that he has no such right.

An annuity of £40,000 was settled on the P. of W. by 26 Vict. c. 1. He has besides the revenues of the duchy of Cornwall: these amounted previously to 1840 to between £11,000 and £16,000; since that period, they have greatly risen, amounting (1876) to £99,827. Only a small part of this income has been expended since the birth of the present P. of W. The sum paid over to the P. of W. 1868 was £55,252; (1876) £70,375. An income of £10,000 has been settled by parliament on the Princess of Wales, to be raised to £30,000 in the event of her widowhood. The annuities of the Prince and Princess of Wales are charged on the Consolidated Fund.

The P. of W. has a separate household, as also has the Princess of Wales. Act. 35 Geo. III. c. 125 makes provision to prevent the accumulation of debt by any future heir-apparent to the crown, and enacts that as soon as he shall have a separate establishment, the treasurer or principal officer shall make a plan of such establishment in distinct departments and classes, with the salaries and payments of each class, and of each individual officer; and the treasurer is made reponsible for the punctuality of all payments, and required to submit his accounts to the lords of the treasury. The statute of treasons, 25 Edw. III., makes it treason to compass the death of the P. of W., or violate the chastity of his consort.

The arms of the P. of W. are those of the sovereign, differenced by a label of three points argent, and the present P. of W. bears *en surtout* the escutcheon of the House of Saxony. The supporters and crest are the same as those of royalty. The ancient coronet of the P. of W. was a circle of gold set round with four crosses patée, and as many fleurs-de-lis alternately. Since the Restoration, it has been closed with one arch only, adorned with pearls, surmounted by a mound and cross, and furnished with a cap trimmed with ermine, like that of the sovereign. The P. of W. has further a distinguishing badge, composed of a plume of three white ostrich feathers, encircled by an ancient coronet of a P. of W., and accompanied by the motto 'Ich dien' (I serve). This device is said by a tradition, on which considerable doubts have been thrown, to have been assumed first by the Black Prince after the battle of Crécy, 1346, when he took such a plume from John, King of Bohemia, whom he had slain with his own hand. The motto has been supposed to allude to the fact that the King of Bohemia served, or was stipendiary to the French king in his wars.

PRINCE OF WALES ISLAND: island at the n.e. extremity of the Gulf of Carpentaria; separated by Endeavor Strait from York Peninsula in Queensland, Australia. It was discovered by Capt. Cook 1770, and is noted for its pearl fishery.

PRINCE OF WALES ISLAND, or PENANG (*Pulo Pĭnang*, Betel-Nut Island): British possession, and one of the Straits Settlements (q.v.), at the mouth of the Strait of Malacca, near the w. coast of the Malay Peninsula; 360 m. n. of Singapore; lat. 5° 16′—5° 30′ n., and long. 100° 9′—100° 25′ e.; length, 13½ m.; breadth, 5 to 10 m.; 106 sq. m. A belt of cocoa-nut and lofty areca palms runs along the coast. A slip of low land, interspersed with hills, stretches along the e. side of the island, where rice, pepper, betel, fruits, provisions, etc., are planted on the level parts; nutmeg and clove-trees on the heights. This district is watered by numerous streams, cut by well-kept roads, and dotted with villas and gardens. Sugar, coffee, and pepper plantations are on the s. and s.w. coasts; thence rises a wooded mountain ridge, which increases in elevation toward the n., where, at the Sanitarium bungalows of Strawberry Hill, it attains a height of 2,922 ft. The rocks are granite and mica schist; the soil, a rich vegetable mold.

The climate of P. of W. I. is healthful, a sea-breeze blowing every day, and rain falling during all the months, except Jan. and Feb. In the low lands, the thermometer ranges from 80° to 90°, and at Strawberry Hill, 62° to 75°, affording a pleasant change within a few miles of Georgetown. From the Sanitarium, a splendid view is obtained of the plantations, town, shipping, and the lofty hills of Queda.

The products are timber, pepper, sugar, nutmegs, cloves, coffee, cocoa and areca nuts, ginger, sweet potatoes, rice, etc.; and the pineapple, shaddock, plantain, banana, orange, lemon, mango, guava, etc., abound. The imports may be valued at about $8,000,000; exports $10,000 000. European and American manufactures, and a share of the produce of the Eastern archipelago, China, India, Siam, and Burmah, enter the emporium of P. of W. I. The commerce of Penang has considerably increased of late years. Georgetown, the cap., is at the n.e. extremity of the island, and is defended by Fort Cornwallis. Singapore is the seat of govt. for all the Straits Settlements.

On the peninsula opposite, 2 m. away, is Province Wellesley, politically one with Penang; a strip of country 35 m. in length by 4 to 11 m. in breadth, acquired from the Raja 1798, because of the prevalence of piracy. Including the recently acquired patch s. of the Krian river, it extends 45 m. along the coast, and has more than 250 sq. m. This is a very important agricultural district, and is under high cultivation compared with adjoining territories;

sugar, rice, and cocoa-nuts being the chief produce. Another strip of territory has been acquired on the peninsula farther s., called the Dindings.

Toward the end of the 18th c., a Capt. F. Light married the daughter of the King of Queda, from whom he received the gift of P. of W. I.; but 1786 it was transferred to the E. India Company, who paid the king $6,000 annually. By an arrangement to pay an additional $4,000 yearly, Province Wellesley was afterward ceded to the Company. Pop. of P. of W. Island (1881) 90,951; of Province Wellesley, 97,324; of whom, 21,772 Malays, 45,135 Chinese, 15,730 natives of India, 612 Europeans and their descendants; the remainder being Siamese, Burmans, Bengalese, etc. There has since been large increase by Chinese and Indian immigration.

PRINCE OF WALES LAND: large tract in the Arctic regions, separated by Franklin Strait from Boothia Felix.

PRINCE RU'PERT'S DROPS: scientific toys, named from their inventor (see Rupert); simply drops of glass thrown, when melted, into water, and thus suddenly consolidated. They have usually a form somewhat resembling a tadpole. The thick end may be subjected to smart hammering on an anvil without its breaking; but if the smallest fragment of the tail be nipped off, the whole flies into fine dust with almost explosive violence. The phenomenon is due to the state of strain in the interior of the mass of glass, caused by the sudden consolidation of the crust when cooling: the crust is formed while the internal mass is still liquid, and it tends to contract on cooling, but is prevented by the molecular forces which attach it to the crust. It is therefore somewhat in the state of the doghead of a gun on full-cock, which will stand a smart blow without falling; while a slight touch applied to the trigger allows the spring to act. Another example of the same state of constraint is the Bologna phial—a glass cup with its sides thin, but the bottom very thick. It also is cooled as quickly as possible. A bullet may be dropped into it with safety from a considerable height; but if a small, sharp-edged fragment of flint be dropped in, so as to scratch the surface in the slightest degree, the molecular forces are set free, and the whole falls to pieces.

PRIN'CES ISL'ANDS, (the *Demonesi* or *Demonnesi* of the ancients): group of 9 islands in the Sea of Marmora, 12 or 14 m. s.e. of Constantinople, near the coast of Asia Minor. The largest of the group, Prinkipo, or Prinkipos, is a hill of red quartz terminating in two peaks. The highest, 500 ft. above sea-level, has upon its summit the old monastery of St. George, now in ruins. The whole group is beautifully situated, with a surface of hills and fertile valleys. Khalki or Chalki, the second in size, has three convents and an Ottoman naval college. Their healthful climate and picturesque beauty make them a favorite summer resort of the Greeks of Constantinople and others. A line of steamers plies between the city and the islands. This group is closely connected with Byzantine history.

PRINCETON, *prĭns'ton:* post-town in Princeton tp., county-seat of Bureau co., Ill., on the Chicago Burlington and Quincy railroad, about 100 m. w.s.w. of Chicago. Bureau creek passes through the township. It is in a coal-mining region and has gas-works, a manufactory for farm implements, a plow-factory, a foundry and machine-shop, grain warehouses, and flour-mills, a high school, and graded schools, newspaper offices, and a good court-house. Pop. (1870) 3,264; (1880) 3,439.

PRINCE'TON: town in Mercer co., N. J.; on the Delaware and Raritan canal and a branch of the Pennsylvania railroad; 11 m. n.e. of Trenton, 40 m. n.e. of Philadelphia, 49 m. s.w. of New York. It is the seat of the College of New Jersey (see NEW JERSEY, COLLEGE OF) and of the Theol. Seminary of the Presb. Church in the United States of America, and has 9 churches beside the college and seminary chapels, 2 public and several private schools, 1 hotel and several boarding-houses, 1 state bank (cap. $100,000), and 1 savings bank; and 1 tri-weekly, 1 weekly, 2 monthly, and 1 quarterly publications. It was the scene of a decisive battle in the revolutionary war 1777 (see PRINCETON, BATTLE OF), and the place of assembly of the continental congress 1783, June 30. Pop. (1870) 2,798; (1880) 3,209; (1885) 3,546.

PRINCE'TON, BATTLE OF: at Princeton, N. J., 1777, Jan. 3, between several regiments of Lord Cornwallis's army and American regulars and Penn. militia under Washington. The forces engaged in the battle and the results achieved were in one sense small; but as the first success of the patriot army after a long series of misfortunes, the event was important and encouraging. In his pursuit of Washington, Cornwallis had halted his army near Trenton, while the Americans escaped across the Delaware river into Penn. 1776, Dec. 25, the Americans made the memorable crossing of the river amid drifting ice, and, landing above Trenton, marched at daybreak on that city and captured it with its Hessian garrison and artillery. Fearing the overwhelming army of Cornwallis close by, Washington recrossed the river the day of the surprise; but a few days afterward returned and occupied the city. Cornwallis began concentrating his army at Princeton with the intention of trying to crush the Americans; while Washington, believing he could fight to better advantage at Princeton than at Trenton, and learning that the British war supplies at Princeton were guarded by three regiments only, determined to move suddenly on Princeton. Thus, Cornwallis marched his army from Princeton to Trenton 1777, Jan. 2, and Washington the same night hastened his army from Trenton to Princeton. At daybreak Jan. 3 the Americans surprised the three British regiments and company of dragoons in the vicinity of the college, and after a fiercely-contested action of 20 minutes routed and dispersed them, with a loss of 200 in killed and wounded and 230 prisoners. The American losses were Gen. Hugh Mercer, 6 officers, and less than 30 men killed. After this battle Washington moved toward Morristown, and followed a line of operations that drove the British from nearly the whole of the Jerseys.

PRINCE'TON COLLEGE: see NEW JERSEY, COLLEGE OF.

PRINCIPAL, a. *prĭn'sĭ-pl* [F. *principal*—from L. *princĭpālis*, first, original—from *princeps* or *princĭpem*, a chief or leader: It. *principale*]: highest in rank or character; most important; chief; leading; capital; essential: N. a head or chief; one who takes the lead; one primarily engaged: the governor or chief in authority; the proprietor or head of a school or academy. In an organ, P. is the name of an important stop, tuned an octave above the diapasons, and in pitch midway between them and the fifteenth. In tuning, this is the most convenient (thence prob. the 'principal') stop to begin with, and from which to adjust the other stops. The capital or chief sum, as money lent on interest. PRIN'CIPALLY, ad. *-lĭ*. PRIN'CIPALNESS, n. *-nĕs*, the state of being principal or chief. PRIN'CĬPAL'ITY, n. *-păl'ĭ-tĭ*, the territory of a prince, or the part of a country which gives him a title; supreme power; sometimes in *Scrip.*, royal state or attire. PRIN'CIPAL'ITIES, n. plu. *-ĭ-tĭz*, in *Scrip.*, the persons or beings in whom the dominion or power is lodged; rulers, as in the phrase, 'principalities and powers.' PRINCIPAL AND ACCESSARY (see ACCESSARY). PRINCIPAL AND SURETY (see SURETY).—SYN. of 'principally': chiefly; essentially; mainly; especially; particularly.

PRINCIPAL AND AGENT: legal relation founded on the absolute necessity of having some one to act for another in times and places when the latter is not personally present. This necessity pervades nearly all branches of the law; and as a general rule, the act of the agent is just as binding on the principal, and produces the same effect, as regards his liability, as if the principal had acted in person. Agents may be divided into many classes; indeed, few persons can escape, in one capacity or another, being occasionally the agent of somebody else. Attorneys, solicitors, legal counsel, brokers, auctioneers, etc., may be said to make a business of agency. A wife is, in law, for many purposes of household management, the agent of her husband; and so are the children agents. Mercantile agents are usually called factors or brokers. The contract between principal and agent implies that the agent shall keep within the limits of his commission, and that the principal will ratify and accept all his contracts, and relieve him of the liabilities. The remuneration of the agent is generally called his commission. As the agent binds his principal, it follows that the principal can be sued by third parties who deal with the agent. The nice distinctions in the law on this broad subject as to the mutual rights and liabilities of the parties are too numerous to be noted here.

PRINCIPATO, *prĭn-chē-pâ'to*, **CITRA**, *chē'trâ*, and **ULTRA**, *ôl'trâ:* formerly two provinces of the kingdom of Naples. *Principato Citra*, now forming the province of Salerno in the reorganized kingdom of Italy, is a maritime province, bounded s.w. by the Mediterranean, and n. by the province of *Principato Ultra*, now called Avellino; united area 3,405 sq. m. Principal towns in Principato Citra are Salerno (from which it has its present name), Sarno, and Pagani; in Principato Ultra, Avellino (from which it has its present name), Ariano, and Cervinara. Pop. of the two (1881) 942,849.

PRINCIPIA, n, *prĭn-sĭp'ĭ-ă* [L. *princĭp'ĭă*, n. plu. beginnings; *princĭpĭum*, a beginning—from *prīmus*, first; *capĭo*, I take]: first principles; the contracted title of Newton's great work.

PRINCIPLE, n. *prĭn'sĭ-pl* [L. *princĭpĭum*, a beginning —from *princeps* or *princĭpem*, a chief—from *prīmus*, first; *căpĭo*, I take: It. *principio:* F. *principe*]: the cause, source, or origin of anything; an element; ground of action; motive; a constituent part; a fundamental truth; a law comprehending many subordinate truths; a settled law or rule of conduct or action; a tenet or doctrine: V. to establish firmly in the mind. **PRIN'CIPLING**, imp. *-plĭng*. **PRIN'CIPLED**, pp. *-pld:* ADJ. imbued with principles; established in opinions or tenets.—SYN. of 'principle, n.': element; constituent; original; fundamental; ground; motive; tenet; beginning; doctrine; source; origin; primordial; maxim; axiom; postulate.

PRINCOX, n. *prĭn'kŏks*, or Prin'cock, n. *-kŏk* [*prince*, and *cocks*]: in *OE.*, a petulant coxcomb; a pert, saucy youth.

PRINK, v. *prĭngk* [see Prank]: to dress for show; to put on stately airs. Prink'ing, imp. Prinked, pp. *prĭngkt*, adorned.

PRINT, n. *prĭnt* [a contraction of Eng. *imprint;* F. *empreinte*, an impression—from *imprimer*, to print—from L. *imprim'ĕrĕ*, to mark or stamp: It. *imprenta*, an impression, a stamp]: a mark or character made by impression; the representation or figure of a thing taken by pressure on paper from wood, from an engraved plate, or from a form of type; an impression from a collection of type; a small printed work or sheet of an ephemeral character: a fabric figured with impressed figures; calico; that which impresses: in *arch.*, a plaster-cast of any ornament in low relief: in *OE.*, formal method; exactness: V. to form or copy by pressure, as from a form of type, or from an engraved plate; to impress, as in the mind; to fix deep; to stamp any fabric, especially cotton cloth, with colored patterns; to publish, as a book. Prints, n. plu. *prĭnts*, engravings; printed calicoes. Print'ing, imp.: N. the act of impressing figures or characters on paper; the business of a printer, on paper or cloth; typography (see below). Print'ed, pp.: Adj. impressed with letters; represented in impressed letters; stamped or impressed, as a print. Print'er, n. *-ėr*, one who prints on paper, as books, newspapers, and the like. Print'less, a. leaving no print or impression. Letterpress printing, that kind of printing which is done from types. In print, issued from the press; published; still in the hands of booksellers for sale. Out of print, applied to a book of which no more new copies are to be had on sale. Print'er's dev'il, n. the newest apprentice boy in a printing-office, who has usually the most of the drudgery to do. Printers' joiner, a workman who makes the woodwork required by printers. Printers' rollers, rollers made of a composition of glue, treacle, and other materials, on which the ink is finely spread, used for inking the forms of type; rollers of cloth used by calico-printers. Printing-ink, the ink used by printers. Printing-office, a place where the printing of books, newspapers, or general printing is carried on. Printing-paper, the kind of paper generally used in printed books, for newspapers, and the like. Printing press or machine, the machine used in printing (see Printing, below). Printing-type, the type of various kinds used by printers for books, newspapers, and for job-work. Print-seller, a shopkeeper who sells engravings, lithographic, colored, and other prints of various kinds. Print-shop, the shop where engravings and the like are kept for sale. Print-works, the place where machine or block printing is carried on; place where calicoes are printed: see Calico.

PRINT'ING: art of producing impressions, from characters or figures, on paper or any other substance. There are several distinct branches of this important art—e.g., printing of books with movable types, printing from engraved copper and steel plates (see ENGRAVING), and taking impressions from stone—called LITHOGRAPHY (q.v.). We have here to describe the art of printing books, newspapers, or other sheets with movable types, generally called *letter-press printing;* which may be esteemed the greatest of human inventions.

The art of printing is comparatively modern, only 400 years having elapsed since the first book was issued from the press; yet we have proofs that the principles upon which it was ultimately developed existed among the ancient Assyrian nations. Entire and undecayed bricks of the famed city and tower of Babylon have been found stamped with various symbolical figures and hieròglyphic characters. In this, however, as in every similar relic of antiquity, the object which stamped the figures was in one block or piece, and therefore could be employed only for one distinct subject. This, though a kind of printing, was totally useless for propagation of literature, on account of its expensiveness and tediousness. The Chinese are the only existing people who still pursue this rude mode of printing by stamping paper with blocks of wood. The work which they intend to be printed is, in the first place, carefully written on sheets of thin transparent paper; each of these sheets is glued, face downward, upon a thin tablet of hard wood; and the engraver then, with proper instruments, cuts away the wood in all those parts on which nothing is traced; thus leaving the transcribed characters in *relief*, and ready for printing. In this way, as many tablets are necessary as there are written pages. No press is used; but when the ink is laid on, and the paper carefully placed above it, a brush is passed over with the proper degree of pressure. A similar kind of printing by blocks, for production of playing-cards and rude pictures of scriptural subjects, was in use in Europe toward the end of the 14th c. But in all this there was little merit. The great discovery was that of forming every letter or character of the alphabet separately, so as to be capable of rearrangement, and forming in succession the pages of a work, thereby avoiding the interminable labor of cutting new blocks of types for every page. The credit of discovering this simple yet marvellous art is contested by the Dutch in favor of Laurence Coster (q.v.), between 1420 and 26.; and by the Germans, on behalf of Johann Gänsfleisch of the Gutenberg (q.v.) family, about 1438. Probably the discovery was made almost simultaneously—such a theory being consistent with the general social progress of the period, and the secrecy which both inventors at first maintained respecting their art. The types first employed were of wood; but soon the practice of casting them in metal was introduced: see TYPES. The earliest of these metal types resembled the black letter in use by transcribers, and one great aim of the first printers was to produce books which should closely resemble the works in manuscript then in use. Gutenberg succeeded 1450–55 in printing a Bible, copies of which are now exceedingly rare and valuable: it is in quarto size, double columns, the initial letters of the chapters executed with the pen in colors. Besides this Bible, some other specimens of the work of Gutenberg, product of his press at Mayence, have been discovered. The Dutch, at Haarlem, preserve and show with reverential care similar specimens of early printing by Coster. Mayence, Strasburg, and Haarlem were indisputably the places where printing was executed before the art was extended to Rome, Venice, Florence, Milan, Paris, Tours, and other continental cities. Previous to 1471, it had reached these and various other places; and about the same year, Caxton (q.v.) introduced the art into England, by setting up a press in Westminster Abbey.

Printing was introduced into Scotland about 30 years after Caxton had brought it to England; in 1551 it reached Dublin, and to other quarters it found its way very slowly. While coming into notice, its progress had been interrupted by the broils consequent on the Reformation; and soon afterward it was retarded by the civil war in Great Britain. Even the Restoration acted detrimentally, for it led to an act of parliament which prevented printers in any number beyond 20 carrying on their art in England. Printing, indeed, has in almost every country been an ill-used art; and is still in various countries practiced under fiscal restrictions. Germany, the mother of the art, long had, on account of sundry obstructions, the repute of printing badly so far as appearance was concerned, but has of late made great progress in this particular. Holland, France, and the United States, as well as England, produce excellent fine art and general printing.

Retarded by the jealousy of governments, printing for some ages derived little advantage from mechanical ingenuity. Originating at the middle of the 15th c., the art continued to be conducted until the middle of the 17th c. in a very clumsy manner. The press resembled a screw-press, with a contrivance for running the form of types under the point of pressure; force having been thus applied, the screw was relaxed, and the form withdrawn with the impression executed on the paper. The defects of this very rude mechanism were partially remedied 1620 by an ingenious Dutch mechanic, Willem Jansen Blaeu, who carried on the business of a mathematical instrument maker at Amsterdam. He contrived a press, in which the carriage holding the form was wound below the point of pressure, which was given by moving a handle attached to a screw hanging in a beam having a spring, which spring caused the screw to fly back as soon as the impression was given. This species of press, formed almost entirely of wood, continued in general use in every country in Europe till the beginning of the 19th c. With certain lever-powers attached to the screw and handle it is represented above. Benjamin Franklin's press, preserved in the museum of the U. S. patent office, was of the Blaeu pattern.

In connection with this representation of the old common press, the process of printing may be described. The form, being laid on the sole of the press (*s*), is fixed at the sides, to render it immovable from its position. There are two men employed: one puts ink on the form, either by means of stuffed balls or by a composition-roller, and the other works the press. The latter lifts a blank sheet from a table at his side, and places it on what is called the *tympan* (*t*), composed of parchment and blanket-stuff, fitted in a frame, and tightened like the top of a drum—whence its name—and which by means of hinges connecting it with the sole, folds down like a lid over the form. As the sheet, however, would fall off in the act of being brought down, a skeleton-like slender frame, called a *frisket* (*f*), is hinged to the upper extremity of the tympan, over which it is brought to hold on the paper. Thus, the frisket being first folded down over the tympan, and the tympan next folded down over the form, the impression is ready to be taken. This is done by the left hand of the pressman winding the carriage below the *platen* (*p*), or pressing surface, and the impression is performed by the right hand pulling the handle attached to the screw mechanism. The carriage is then wound back, the printed sheet lifted off, and another put on the tympan, the form again inked, and so on successively. In the above engraving, the press appears with the frisket and tympan sloping upward, ready to receive the sheet, the frisket being sustained from falling backward by a slip of wood depending from the ceiling. One of the greatest niceties connected with this art is the printing of the sheet on the second side in such a manner that each page, nay, each line, shall fall exactly on the corresponding page and line

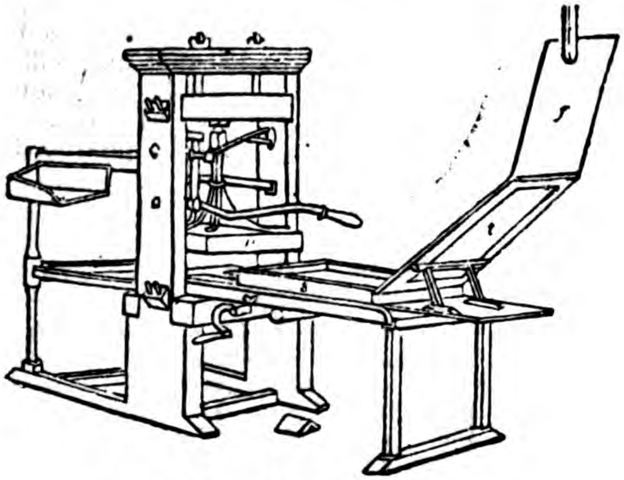


Fig. 1.—Old Common Press.

on the side first printed. To produce this desirable effect, two iron points are fixed in the middle of the sides of the frame of the tympan, which make two small holes in the sheet during the first pressure. When the sheet is laid on to receive an impression from the second form, these holes are placed on the same points, so as to cause the two impressions to correspond. This is termed producing *register;* and unless good register is effected, the printing has a poor appearance. However improved, a press of the above description could not impress more than half a sheet; and the practice was to first squeeze so much of the sheet, then relax the handle, wind the second half below the platen, and print it in turn. Thus each sheet required four squeezes to complete it—two on each side. It is not without a degree of wonder that one reflects on the rudimentary clumsiness of the whole operation; and it seems not less marvellous, that it was by no other process that the best typography could be produced until the end of the 18th century.

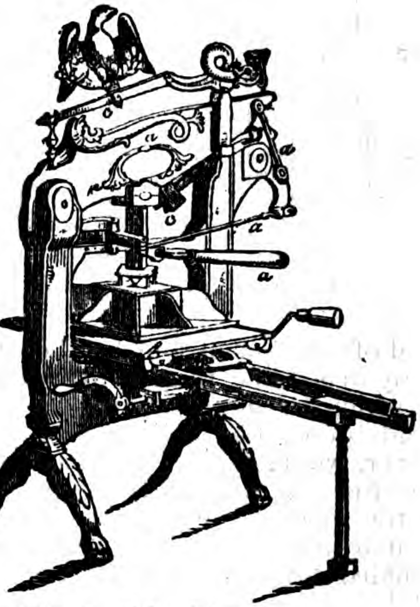


Fig. 2.—Columbian Press.

The first improvement on the printing-press was by the renowned Earl of Stanhope. He constructed the press of iron, and of a size sufficient to print the whole surface of a sheet, and he applied such a combined action of levers to the screw as to make the pull a great deal less laborious to the pressman; the mechanism altogether being such as to permit much more rapid and efficient working. A multitude of improvements speedily succeeded that of Earl Stanhope, in most of which the screw was dismissed, the pressure being generally effected by levers, or by the simple and efficient principle of straightening a joint. Among those which gained large share of approbation in Britain as well as the United States, was the *Columbian Press,* of

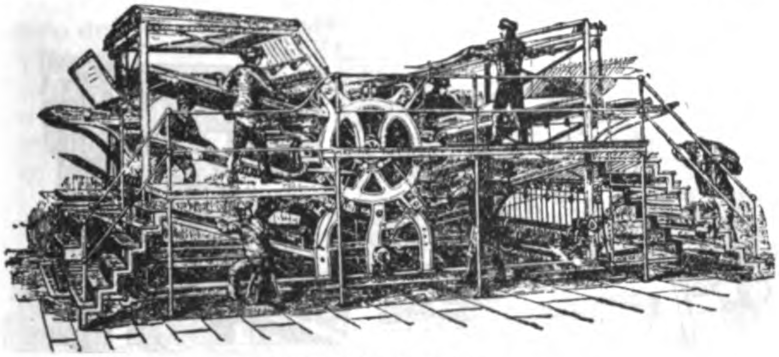
American invention. This press, a representation of which is annexed, was taken to Great Britain 1818 by George Clymer, of Philadelphia, and patented. The pressing-power in this instance is procured by a long bar or handle acting on a combination of exceedingly powerful levers (*a,a,a,a*) above the platen, the return of the handle or levers being effected by means of counterpoises or weights (*c,c*). For ease and facility of *pull*, this press is preferred by most workmen; and certainly the powerful command which the leverage enables the workman to exercise is favorable to delicacy and exactness of printing—his arm feeling, as it were, through the series of levers to the very face of the types.

Printing by hand-presses of an improved kind, for small impressions or for extra care and elegance in typography, is still in favor to some extent. Flat-pressure machines have been constructed also, and in the United States especially have been successful. The Adams power-press introduced 1830, and later much improved, is much used by book-printers. It gives a perfectly flat impression by lifting the form against a stationary platen. Its rate is 1,000 impressions per hour.

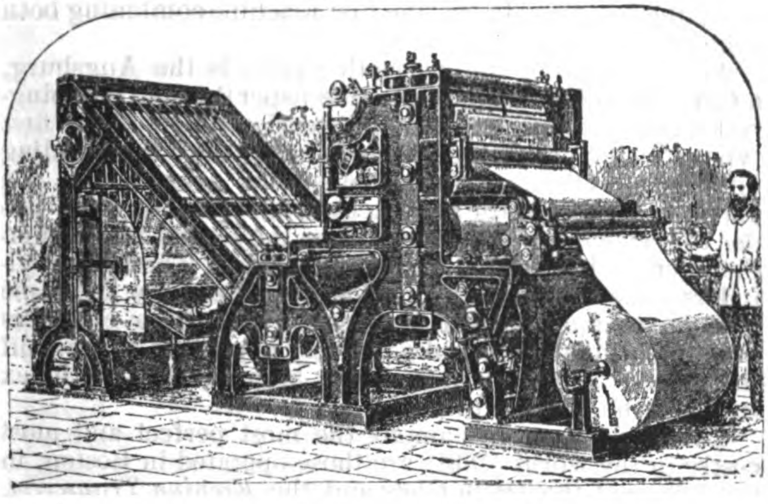
For the rapid printing now commonly required, some form of cylinder-press, with steam power, is universally employed, and the complete swift press of to-day includes apparatus for cutting from a continuous sheet or web of paper, and for folding, pasting (if desired), and counting the papers thrown off. The two purposes for which presses are required, book-work and newspaper-work, mark two distinct classes of machines, one for book printing, which requires attention to register, and one for very rapid throwing off of complete folded papers. The progress of invention has been from presses printing only one side at a time to those which successfully print both sides at a single passage of the sheet through the press: the last are called perfecting-presses. They usually work on a continuous web of paper, the sheet as it unrolls passing through the machine, between a pair of cylinders, one for type and the other for impression, for the printing of one side, and then between another pair for the printing of the reverse side. They next pass to the cutter, which severs the sheets; thence to the folder, which gives as many folds as are required. Perfecting-presses usually print from stereotype plates. They run as high as 12,000 to 50,000 perfect papers per hour. Among presses of this type are the Hoe and Tucker perfecting web press, the Walter press, the Bullock press.

Nicholson, in England, 1790, patented a press constructed with cylinders, one to carry the type, one to make the impression, in place of the platen, and one to apply the ink to the type. The paper was to be carried between the type and impression cylinders. Nothing practical came of this at the time, but its ideas were closely followed in later inventions. A German, Koenig, built a press with which the London *Times* was printed, from 1814, Nov. 28, by steam-power. The type-form was flat. The impression was made by a large cylinder to which the paper was held by tapes. The ink-supply was from a trough through a series of rollers, with the first use of end motion in the distributing roller. The form passed alternately under the ink-roller and the paper-cylinder. The rate was at first 1,100 impressions per hour; afterward 1,800. To double the rate, a paper-cylinder was placed on each side of the ink-roller. Koenig sought unsuccessfully to combine two single presses in one, so as to print both sides of the sheet at one impression, and thus make what is now called a perfecting-press. Cowper, 1815, patented a design for using curved electroplates fixed on the lesser part of the surface of a cylinder, the larger part being used for ink-distribution. Applegath and Cowper, 1818, patented a press with flat bed-drums over which the paper went in passing from one cylinder to the other, and diagonal distributing ink-rollers upon an inking-table. An Applegath and Cowper four-cylinder press superseded the Koenig press in the London *Times* office 1827. By alternate raising and lowering, two of the cylinders came down on the type-bed as it passed one way, and the other two as it passed the other way. The rate was 5,000 per hour, on one side. An Applegath press, built for the London *Times* 1848, and used for many years, had cylinders placed on end, with the paper caried on edge, and the type in upright columns on the 8 flat sides of a vertical drum. There were 8 sets of inking-apparatus, 8 impression-cylinders, 8 banks from which the paper was fed, and 8 tables upon which the printed sheets were delivered. The rate began, 1848, at 8,000 per hour, and rose to 12,000, printed on one side. The Applegath and Cowper book-press, with steam-power, a large machine of imposing appearance, is one of the best of this class of printing-presses. Its two printing-cylinders, nearly 9 ft. in circumference, accurately turned to be perfectly parallel, and set about two ft. apart, have a continuous rotary motion toward each other, while the type-beds move forward and backward under them. Of the many varieties of the cylinder-machine, the Gripper is notable. It has a series of brass gripping fingers arranged along, and fixed to the cylinder, which seize the sheet and hold it till it is delivered printed. The impression-cylinder is reduced to 12 or 18 inches in diameter, and no drums are used. A superior double gripper is that of Marinoni, Paris. The Applegath and Cowper press is made a perfecting-press by an ingenious arrangement of cylinders, drums, and tapes, the action of which, after one side is printed, reverses the sheet and secures the printing of the other side. A new form of perfecting-press for book-work is the Marinoni combined perfecting and duplex single-cylinder press.

The most advanced type of press is the invention of Richared M. Hoe of New York. Hoe's earliest design placed the type on a fixed cylinder, and made impression-cylinders travel around it. He improved this by placing the type on a revolving cylinder, in contact with which revolved four impression-cylinders carrying the sheets of paper. The type as set up is placed in curved beds, called turtles, and these are affixed to the large cylinder. As this revolves it presents the form successively to the inking-rollers and to the paper. This press, which became known as Hoe's 'lightning press,' was made first with 2 cylinders, but the number was increased to 4, 6, 8 and finally 10, each with its inking-rollers. Hoe's type-revolving perfecting-press, printing from a roll of paper, was made to deliver 12,000 folded papers per hour. An immense improvement, dating from about 1851, and applied in the Walter press of the London *Times* office, 1863–68, was that of using curved stereotype plates and a continuous roll of paper, with an arrangement for printing both sides in succession at a single passage of the continuous sheet through the press. The Walter press delivered finished papers at the rate of 12,000 to 17,000 per hour.

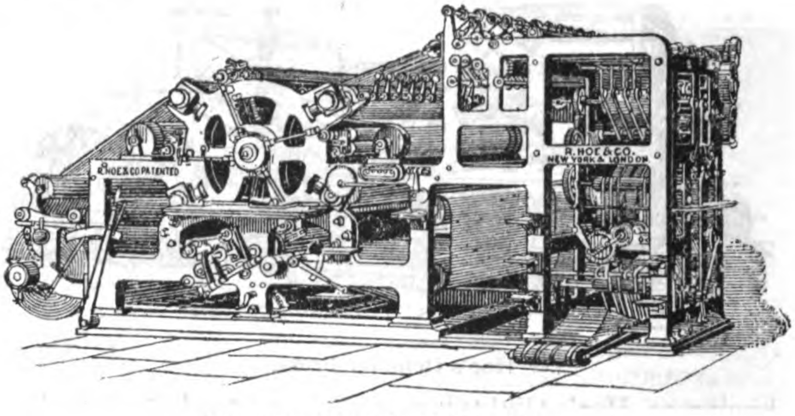


Hoe's Cylinder Press.



The Walters Printing Press.

The Hoe web perfecting-press prints from a roll of paper, or web, more than 4½ m. long. It has 3 pairs of cylinders. The damped paper passes between the first pair, one of which carries the stereotype of the matter to be printed, and is duly inked, while the other, covered with blanket, gives the impression, for printing one side of the paper. The second pair, to which the paper passes, prints the other side; and after these the cutting-cylinders take the paper.



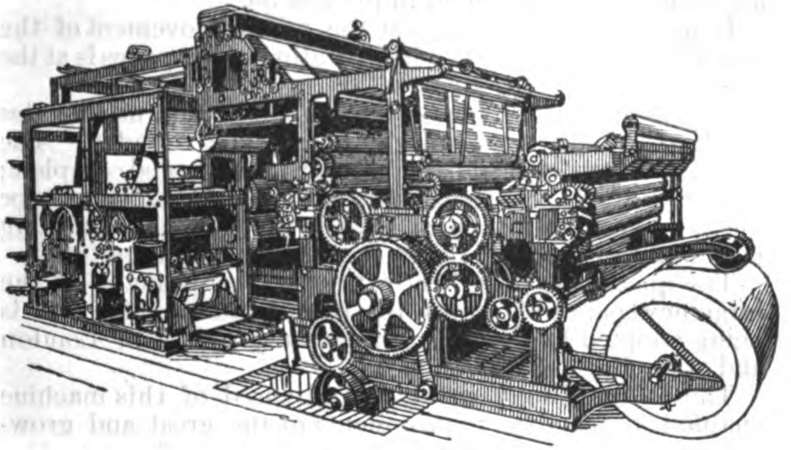
Type-revolving Perfecting-press.

The Victory printing and folding machine carries the paper over two wetting-boxes, then over two hot copper cylinders, thence between the successive pairs of cylinders which print first one side, then the other. The cutting and folding cylinders then take the paper, and deliver the perfectly folded papers at the rate per hour of 9,000 copies of an 8-page, and 18,000 of a 4-page paper, 50 inches square. It prints, folds, and pastes at the back a 24-page paper, e.g., the *Christian Union*, at the rate of 7,000 per hour. To work it one pressman only is required, and a boy to take away the papers. It was the first machine combining both printing and folding.

Another form of web perfecting-press is the Augsburg, a German design, which takes the paper through damping-rollers, then through adjustable tension-rollers to the first type-cylinder, over which it passes under the corresponding impression-cylinder, printing one side, after which the paper, carried upward and backward, is sent forward under the second type-cylinder above the second impression-cylinder, and is printed on the other side. These four cylinders, placed in a vertical series, are all exactly the same size, producing a perfect register. The cutting cylinders take the printed web, and a delivery apparatus throws off the papers to the right and left alternately. An index registers the number printed.

Two printing-presses among the most perfect and most costly in the world (1891) are those operated in Boston, in the offices of the *Daily Globe* and the *Evening Transcript.* In the *Transcript* office, experiments were made at great cost during three years to secure a press, using the type directly, and equal to printing on both sides at once, and folding complete, a paper of from 8 to 20 pages. The experience thus gained led to giving up direct use of the type, and to the building at a cost of $65,000 for the changes and new machinery, a Hoe quadruple perfecting-press, with an immense range of work, capacity, and mechanism. It is composed of 7,000 separate parts and pieces, and its weight is more than 90,000 lbs., or 45 tons; length 24 ft., greatest width 13 ft., height 10 ft., and floor-space occupied more than 400 sq. ft. This machine combines the capacity and range of four single perfecting-presses, and is composed of two double machines known as the main and supplement presses. These divisions may be operated together or independently of each other. The supplement-press is placed at right angles with the main press, the two being separated by a passageway, which gives easy access to any part of both of the machines and folders.

The cylinders carry 32 stereotype plates. The ink is supplied from ink-fountains, and is distributed by rollers, which have a rotary and an endwise motion, thereby giving the ink a perfect distribution.



Hoe's Quadruple Perfecting-press.

The press prints, cuts, pastes (if desired), and folds at the rate of 800 8-page papers per minute, delivering them folded to one-half page size, and at the same time counting them in lots of 50, and registering at three different stations on the press the number of papers printed.

The great rolls or webs of paper are placed in position near the floor. These are 73 inches wide, and weigh about 2,000 lbs. each. As the press is started, the broad sheet is rapidly drawn between the impression-cylinder and the plate-cylinder of the main press, the former of which is so adjusted as to bring the paper web up against the latter, from whose stereotype plates a perfect impression is received. The web thus printed on one side then passes between the second impression-cylinder and the second plate-cylinder, and receives the impression of the opposite pages. The paper, still of its full width, runs along the top of the main press, and is cut exactly in the centre by a rotary knife, the separated sheets continuing their course all the while at great speed, over the aisle to the turning bars placed diagonally across the frame of the supplement press, and from which, following different courses, they pass down into the folding apparatus. Here the web from the supplement press, having received its impression on both sides from the cylinders corresponding to those on the main press, meets the web from the main press. After the separate webs have met, they pass down over the 'former,' which is an inclined triangular form placed point downward, over whose smooth surface they are rapidly carried to the two horizontal rollers below. The combined web, the width of a single page, now encounters a pair of folding and cutting cylinders carrying a double set of knives, which cut from the swiftly moving web each perfect paper of any given number of pages. Before the paper is separated from the web its pages are pasted, when desired, by the running of the web over the edge of a pasting-wheel, which pastes the paper down the centre margin. The papers are delivered upon moving leather belts, which carry them from the folding-machine, and automatically count them in piles of 50.

It has been estimated that the whole movement of the paper through the press when printing eight pages is at the rate of 40 miles an hour.

The change from type direct to stereotype necessitates creating a dept. known as the stereotype foundry. The type is 'set up' as usual, and each page arranged complete; a paper pulp mold is then taken, from which two stereotype metal plates are produced of each page; and the printing is done direct from these plates, not from the type forms.

The quadruple press is now in operation in many of the large newspaper offices of the United States, and also is being adopted by several of the great journals of London and other English cities.

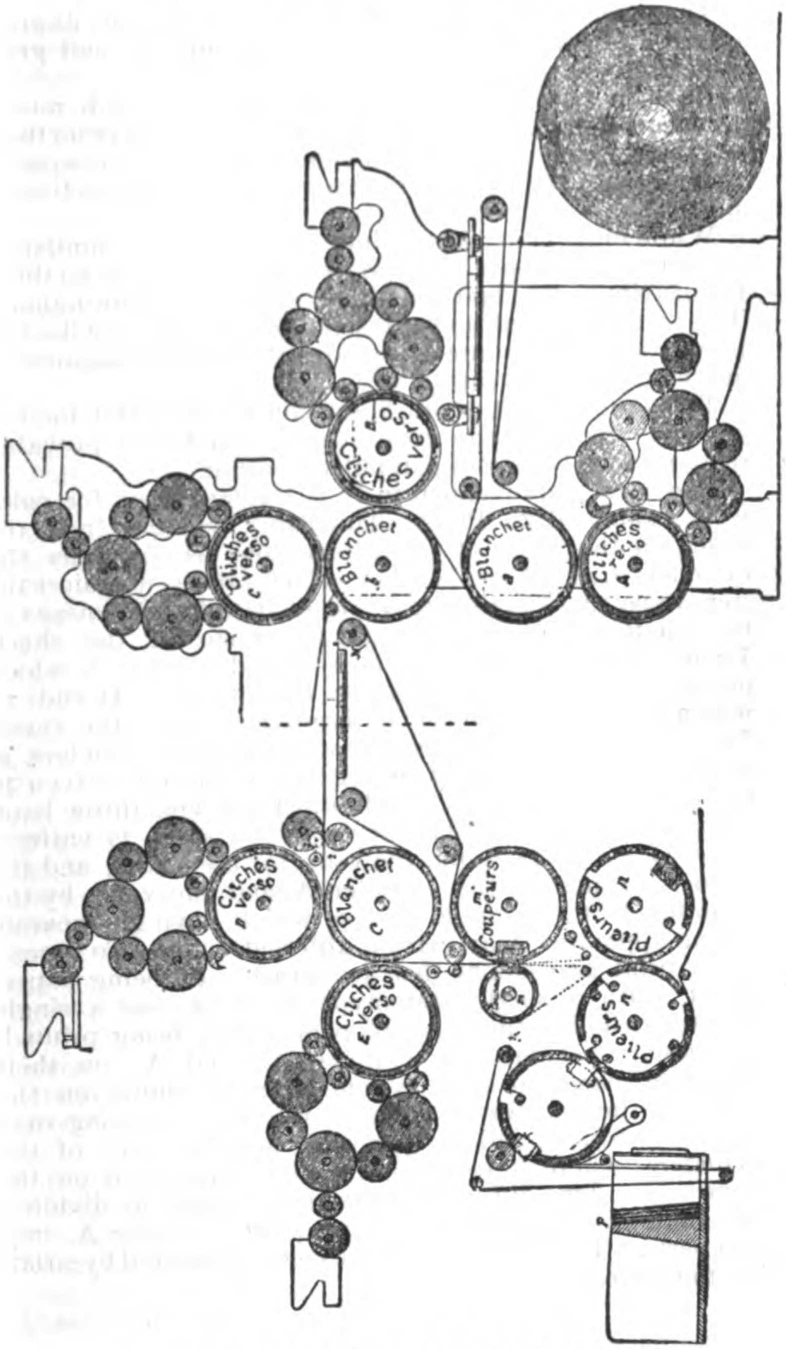
The extraordinary capacity and speed of this machine enable it to meet the requirements of the great and growing newspaper establishments which demand production of enormous editions in the shortest possible time.

Wonderful as has been the development of newspaper-printing machinery as shown in the quadruple press, the demands of the great metropolitan dailies have resulted in the recent production of the largest and most costly web perfecting-press ever constructed. This machine, the sextuple press, was built by R. Hoe & Co. for the *New York Herald*, and is a marvel of ingenuity and skill, possessing extraordinary capacity and speed. A mere statement of what it will do will be sufficient to indicate the remarkable qualities of this great press. It will print, cut, paste, fold to one-quarter page size, and deliver the following number of papers per hour:

96,000	4 and 6	page.
72,000	8	"
48,000	10	"
48,000	12	"
24,000	14	"
36,000	16	"
24,000	20	"
24,000	24	"

This machine is composed of more than 15,000 separate and distinct parts and pieces; and its construction occupied more than 18 months. It is the successful result of years of study and experience.

While the sextuple marks the greatest achievement in the building of newspaper presses, the highest development in another direction of printing machinery is embodied in the web perfecting book and pamphlet press.



French Rotary Press for Color-Printing.

This press, also built by the Messrs. Hoe & Co., will accomplish the results of ten two-revolution presses and ten hand-feed folding-machines; while its latest improved attachments and devices are specially designed for rapid production of the highest order of illustrated book work.

The machine is remarkable for the simplicity of its great number of combinations, and for the quality and great variety of the work that it will do.

Its capacity will allow the production, at a high rate of speed, of signatures of from 8 to 64 pages, delivering them in various sizes and folded in pamphlet form—the capacity varying with the size and number of pages of the delivered sheet.

While in its general principles this machine is similar to the large newspaper web presses, it has greater facilities for distribution and possesses finer adjustments throughout. The plates admit of underlays and overlays as on a flat-bed press, and the machine is provided with the most approved appliances for preventing offset.

This press combines the finest construction and facility of operation with the greatest speed, and will probably revolutionize book and pamphlet printing.

The latest improvement in P. is a rotary press for color work, patented in Paris. The paper, coming from the roller on the right of the illustration, passes under the cylinder, *a*, called the blanket, which presses it against the stereotype plate cylinder, A, which is inked by means of the small rollers, and prints the recto of the sheet. Thence, the paper passes over a second blanket. *b*, which presses it successively against the cylinders D and E, which continue and finish the impression upon the verso. The paper then passes between the cutting-cylinders, *m* and *n*, when the forward end of the cut sheet is driven to the folding-cylinders, which fold it twice and throw it on the receiving table. The recto of the sheet is entirely reserved for the text, and the verso for the colors; and the recto is printed by the cylinder A, and the verso by the cylinders B, C, D, and E, each of which, having a separate inking-apparatus, may carry a different color. To successively print two colors that are capable of being superposed, with a single stereotype cylinder and a single blanket cylinder, the sheet of paper, after being printed, in passing between the cylinders, *a* and A, on their first half, passes over a system of rods (shown on the right of the illustration), thence returns in passing over two small rollers, and engages with the other half of the cylinders, where it receives a second impression on the same side. Two different colors are obtained by dividing the inking-roller corresponding to the cylinder A. into two parts. The impasting of the colors is secured by striating the plates.

PRIOR, a. *prī'ėr* [L. *prĭor*, former, previous]: coming before in the order of time; preceding; foregoing. **PRIORITY**, n. *prī-ŏr'ĭ-tĭ*, state of being first in time, place, or rank; precedence.—SYN. of 'prior': antecedent; precedent; pre-eminent; former; previous; anterior.

PRIOR, n. *prī'ėr* [F. *prieur;* It. *priore*, a prior—from L. *prĭor*, superior]: one placed before others in rank or authority; the superior in a convent of monks, inferior to an abbot (see MONASTERY). **PRIORATE**, n. *prī'ėr-āt*, or **PRI'ORSHIP**, n. the dignity, government, or office of a prior. **PRI'ORESS**, n. *-ĕs*, the female superior of a nunnery. **PRI'ORY**, n. *-ĭ*, a convent or nunnery, in dignity below an abbey, and usually dependent on an abbey.

PRIOR, *prī'ėr*, **MATTHEW**: English poet of society: 1664, July 21—1721, Sep. 18; b. (probably) at Wimborne, Dorsetshire; or in or near London; son of a joiner. He was educated, through the liberality of an uncle, at Westminster School; and 1682 was sent by the Earl of Dorset, whose favorable notice his abilities had by chance attracted, to St. John's College, Cambridge. Here he took his B.A., obtained a fellowship, and made friendship with Charles Montagu, afterward Earl of Halifax, in conjunction with whom he produced, 1687, *The City Mouse and Country Mouse*, written to ridicule Dryden, in which it did not in the least succeed, though it lives yet in virtue of its own wit, polish, and grace.

After 1688 P. was introduced to court by the Earl of Dorset, and was appointed sec. to the embassy which was sent to the Hague 1690. His conduct gave satisfaction to King William; and the fortunate and well-mannered poet was appointed afterward to several similar posts. He was a favorite at the courts of Holland and France. In 1701 P. entered parliament; and soon he deserted the whigs, and went over to the tory party. In 1711 he was sent by govt. to Paris with private proposals for peace, and on his return, he brought with him one of the French ministers, who was invested with full powers to treat. At P.'s house, shortly afterward, the representatives of the British govt. met the French plenipotentiary; and about the time of Queen Anne's death, his connection with this meeting was made by his political opponents the ground of a charge of treason, on which he was committed to prison, but released after a confinement of three years, without a trial. He had now nothing to live by except his university fellowship and his wits. The publication of his poems by subscription, however, brought him 4,000 guineas; and at the same time, Lord Harley, son of the Earl of Oxford, bought a small estate in Essex, and conferred it on him for life. At the age of 57, he died at Wimpole, Cambridgeshire, a seat of the Earl of Oxford. A monument was erected to him in Poet's Corner in Westminster Abbey, where he was buried.

P. was one of the few poets who was also a diplomatist and man of the world. He filled his public offices with credit to himself, and he had the knack of making friends among those who had the giving of places and pensions.

His poems, which are in great variety, comprising odes, songs, epistles, epigrams, and tales, are not widely read. He has intellectual force, but no fire, no enthusiasm. Everything is neat, pointed, well turned, elaborately finished; and his lighter pieces are very graceful and witty, with all the polish and felicity of a scholar and man of society. It is common to say that P.'s poetry lacks inspiration; but it probably has been the source of much inspiration in other writers—or rather of much suggestion to them of felicitous thought and expression. His most ambitious work was *Solomon;* his longest humorous poem was *Alma.*

PRIORI: see A PRIORI.

PRISCIAN, n. *prĭsh'ĭ-ăn* [*Priscĭā'nus*, a grammarian who flourished about A.D. 440]: a Latin grammarian esteemed the highest authority in grammar in the middle ages. **BREAK PRISCIAN'S HEAD**, violate a rule of grammar, especially as regards quantity.

PRISCIAN, *prĭsh'ĭ-an* (PRISCIANUS, *prĭsh-ĭ-ā'nŭs*, CÆSARIENSIS): the surname from either his birth or his education in the town of Cæsarea: in reputation perhaps the first of Latin grammarians, though one of the last in time; lived about A.D. 500, being mentioned by Paulus Diaconus as contemporary of Cassiodorus (468–562). He taught Latin at Constantinople, probably to the imperial court, for he received a govt. salary. The work which mainly has preserved his name is *Commentariorum Grammaticorum Libri XVIII.*, dedicated to his patron the consul Julianus. The first 16 books treat of the different parts of speech as conceived by the ancients; the remaining two pertain to syntax, and in one MS. bear the separate title *De Constructione libri duo.* P.'s Commentary is, for the time, a solid and comprehensive work, the production of a man of great learning and good sense, and is enriched with quotations from many Greek and Latin authors no longer extant. The epitome executed by the German bishop, Rabanus Maurus (9th c.), was very popular in the middle ages. Besides the Commentary, P. wrote six smaller grammatical treatises, and two hexameter poems of the didactic sort, *De Laude Imperatoris Anastasii*, and a free translation of the *Periegesis* of Dionysius. The first ed. of P. appeared at Venice (1470); the best is that by Krehl (2 vols., Leip. 1819–20).—The phrase, 'to break the head of Priscian,' means to violate grossly the rules of grammar.

PRISCILLIAN, *prĭs-sĭl'ĭ-an:* died 385: author, rather the chief propagator in Spain, during the latter part of the 4th c., of the doctrines of the sect named from him PRISCILLIANISTS. The first seed of their doctrines is said to have been carried into Spain by a Memphian named Marcus. P. was of noble birth; and by his eloquence and ascetic life obtained so much consideration, that a numerous party, including some priests, and at least two bishops, attached themselves to his school. His doctrine was substantially that of the Manicheans (q.v.). He taught expressly the *Dualism* and the *Docetism* of that sect, and it is equally certain that he adopted the moral consequences as to marriage, etc., by which they had rendered themselves obnoxious even to the civil authorities in the East and Africa. He was warmly opposed by two bishops, Idacius and Ithacius; and the council of Cæsar-Augusta (Saragossa) 380 having condemned his doctrines, a decree for his banishment was issued in the same year. He not only obtained, however, a reversal of this decree, but succeeded in effecting the banishment of his chief opponent, Ithacius. By appeal to the usurper Maximus at Treves, Ithacius caused P. and several of his followers to be brought to trial, and put to death; a proceeding regarded with so much abhorrence by St. Martin of Tours, St. Ambrose, and other bishops, that they separated from the communion of Ithacius. The sect did not die with its founder, though there was considerable reaction against it at the close of the 4th c.; and it disappeared as an organized body before the end of the 6th c., though at all times through the mediæval period its traces appear under various names and forms, especially in n. Spain, in Languedoc, and in n. Italy.

PRISCILLIANIST, n. *prĭs-sĭl'lĭ-an-ĭst:* follower of Priscillian (q.v.).

PRISE, v. *prīz* [F. *prise*, a taking, a seizing; *prendre*, to grasp—from L. *prehen'dĕrĕ:* comp. Manx, *prise*, a fulcrum]: to force open by leverage, as a box. PRISAGE, n. *prīz'āj*, a duty formerly paid to the sovereign of England on wine imported; the share of merchandise taken as a lawful prize at sea, belonging to the admiral or sovereign.

PRISM, n. *prĭzm* [F. *prisme*, a prism—from Gr. *prisma*, that which has been sawn or cut, a prism—from *prizeĭn*, to saw: It. *prisma*]: in *geometry*, a solid whose ends or bases are similar, equal and parallel planes, and whose sides are parallelograms; a triangular bar of glass. **PRISMATIC**, a. *prĭz-măt′ĭk*, or **PRISMAT′ICAL**, a. *-ĭ-kăl*, pertaining to or resembling a prism, or formed as one; formed by a prism. **PRISMAT′ICALLY**, ad. *-lĭ*. **PRISMATIC COLORS**, the colors into which a ray of light is decomposed in passing through a prism—viz., violet, indigo, blue, green, yellow, orange, and red. **PRIS′MOID**, n. *-moyd* [Gr. *eidos*, resemblance]: a figure resembling a prism, or only approaching to it. **PRISMOID′AL**, a. *-ăl*, having the form of a prismoid. —A *Prism* is a solid figure which can be most easily conceived if we imagine a number of plane figures (triangles, quadrilaterals, etc.) exactly similar in form and size to be cut out of paper or any thin plate, and piled one above the other, and then the whole pile to become one body. It will thus be seen that the top and bottom of the P. are similar, equal, and parallel to each other, and that the sides are plane figures, rectangular if the P. be 'right' (i.e., if in the above illustration the pile of plane figures be built up perpendicularly), or rhomboidal if the P. be 'oblique' (i.e., if the pile slope to one side); but under all circumstances the sides of a P. must be parallelograms. The top and bottom faces may be either triangles, squares, parallelograms, or quadrilaterals of any sort, or figures of 5, 6, 7, etc., sides, provided only both are alike; and the number of sides in the plane figure which forms the top or bottom, of course determines the number of faces of the P.; thus, in a triangular P., there are 5 faces in all (3 sides and 2 ends); in a quadrangular P., 6 faces (4 sides and 2 ends), etc. If two prisms, one being 'right,' and the other 'oblique,' have their bases of equal area, and be of the same vertical height, their solid content is the same, and is found by multiplying the area of the base by the vertical height. The Parallelepiped (q.v.) is a quadrangular P., and the *cube* is a particular case of the parallelepiped.—P., in *optics*, is a triangular P. of glass or other transparent substance, its two ends being isosceles triangles, and having most frequently a very acute vertical angle, which gives the P. the appearance of a long wedge. The P. is a most important instrument in experiments on the refraction of light, and its use has added largely to the science of optics. See **REFRACTION**.

PRISMENCHYMA, n. *prĭs-mĕng′kĭ-mă* [Gr. *prisma*, a prism; *eng′chuma*, juice, substance of organs; *cheuma*, tissue—from *chĕō*, I pour]: in *bot.*, tissues formed of prismatic cells. **PRISMEN′CHYMAL**, a. *-kĭ-măl*, of or pertaining to.

PRISON, n. *prĭz'n* [F. *prison;* It. *prigione*, a prison: Sp. *prisión*, capture, confinement—from mid. L. *prensĭōnem*, a prison: L. *prehen'sĭō* or *pren'sĭō*, a seizure; *prehen'dĕrĕ*, to seize]: building or place for penal confinement or safe custody of criminals; a jail; a place for the detention of accused persons or debtors; any place of confinement or restraint (see PRISONS—PRISON DISCIPLINE): sometimes in *Scrip.*, spiritual bondage, or affliction generally: V. in *OE.*, to immure; to imprison. **PRISONER**, n. *prĭz'ŏn-ėr*, one who is confined in a prison; a captive: one whose liberty is restrained; one who is under arrest. **PRISON-HOUSE**, a jail. **PRISONER'S BASE**, a boys' game, in which swiftness in running from goals when pursued is an important element. **PRIS'ONMENT**, n. OE. for IMPRISONMENT.

PRIS'ONERS OF WAR: persons captured from the enemy during naval or military operations. By the laws or recognized principles of war, the entire people of a vanquished town, state, or nation become the absolute property of the victors; but civilization has greatly modified this stern rule, and, except when a country is devastated for military reasons, it is rare for non-combatant citizens to be subjected to penalties of conquest, beyond the levying of contributions in money or provisions. The combatants who have laid down their arms become P. of W. Their lives and liberty are at the disposal of their conquerors, and even in modern times, their lives are sometimes taken; e.g., when Napoleon put the Turkish prisoners to death at Jaffa 1799; otherwise, P. of W. are kept in confinement until peace ensues, or they are exchanged for prisoners of their conqueror's nation which are held in captivity by their own countrymen. It is unusual to subject P. of W. to penal discipline; but the loss of liberty and hard fare (for, of course, they are allowed no more than a bare subsistence) render captivity sufficiently irksome. In ancient times, the treatment of P. of W. was far more severe. In the Greek wars, frequently the whole adult male population of a conquered state were put to the sword, while the women and children were enslaved. Although the putting to death of prisoners became less frequent, they and their families were commonly reduced to slavery to as recent a period as the 13th c. About that time, the more humane custom of exchanging prisoners came into practice. Notwithstanding frequent exchanges, large numbers of prisoners accumulate during war. In 1811 about 47,600 French were prisoners in England, while 10,300 English languished in the prisons of France. In the war of the rebellion in the United States, 212,608 U. S. troops were captured; paroled on the field 16,431: 476,169 Confederate troops were captured; paroled on the field 248,599. See PAROLE.

PRIS'ONS—PRIS'ON DIS'CIPLINE: places of confinement for persons committed under process of law: and the principles and method of managing such institutions. To protect society by effective dealing with criminals, through P. and P. D., has become an aim of both law and philanthropy in a new sense, from the belief now everywhere accepted, that by far the surest means of preventing and extirpating crime is humane reformatory treatment of criminals generally. A new learning, an extensive literature, a world-wide organization of conference and counsel, and a rare development of sagacity and skill in management, have come into a field which was until near our own time, a scene of darkest barbarism, through lack of comprehension of crime and true judgment of the relation of criminals to society. The view that retributive wretchedness, and destruction even, was not only the criminal's desert, but also must be visited upon him by the government, has yielded to the view that no need of society is more certain and urgent than that of reformation of the criminal with a view to his restoration to the rights and privileges of humanity. The highest ideal of a system which formerly meant an indelible brand and confirmed degradation, is now the rescue of a human soul, and return to human society, without any public memory of temptation and fall.

The extreme form of forcible repression of crime has been that of deliberate retributive destruction of the criminal by the death penalty. The more violent and cruel modes of this penalty have become obsolete, and one of the questions of civilization now is whether every form of deliberate killing of criminals is not contrary to the common good, at least under the present advanced circumstances of human society. The terrible injury done by the death penalty to those whom close ties bind to the criminal; its tendency, when made familiar by use, to breed contempt of its supposed terror, the effect that it may have to exasperate criminal passion, and even a brutalizing fascination which it exerts over the common respect of men for human life, have appeared to many conclusive reasons for disuse of what still remains of capital punishment. The force of the arguments against capital punishment is not denied by those who advocate its retention; but the counterbalancing considerations are judged by them to have still greater force, at least in the present state of society.

A notable feature of the old system has been the transportation of criminals and confinement under the severities of colony labor and life remote from civilization. England, 1718–76, regularly shipped great numbers of convicts to America, and when the revolution, which stopped this, caused an accumulation of 15,000 prisoners in the hulks on the Thames, a convict fleet, 1787 Mar.—1788 Jan., began the planting of penal colonies in Australia, at Port Jackson near Sydney. A few years later a second penal colony was planted in Van Diemen's Land, now Tasmania. A third penal settlement was made on

Norfolk Island, 900 m. e. of Australia. John Howard had opposed transportation from the first; and 20 years after his death (1790) Romilly and Bentham renewed the attack on it, while Abp. Whately, by two letters to Earl Grey, branded it as 'begun in defiance of all reason, and continued in spite of all experience.' In 1837 a parliamentary commission, of which Peel and Russell were members, and Sir Wm. Molesworth chairman, reported in favor of its abolition, as of excessive cost, injurious to the colonies, and promotive of crime; also as very unequal in its operation and very little deterrent. Transportation to New South Wales ceased from 1840; to Van Diemen's Land from 1848; and though the W. Australian colony, which was started 1829, was not yet given up, few were sent to it. From 1847 the principle of probationary punishment at home was adopted; and 1857 transportation was formally abolished, except as penal servitude was made, until 1867, a reward for good conduct in British prisons. As early as 1846 Australia had demanded that the families of prisoners should accompany them, and that for every convict sent an honest settler should be sent by govt. The increased opposition of the Australians finally compelled abandonment of the system. France made a failure of an experimental penal colony in Guiana (Cayenne), on the n.e. coast of S. America, where criminals were sent as early as 1795 and as late as under Napoleon III.; but one at New Caledonia, an Australasian island, begun 1853, has had more success, and French agricultural penitentiaries are established in the island of Corsica. Italy has agricultural penal colonies in the islands of Gorgona, Capraia, and Pianosa, in the Tuscan archipelago, and in Sardinia. Spain has made use of transportation to Africa, the Canary Islands, or beyond the seas; and Portugal has had penal colonies in Africa since 1852. Russia began transportation to Siberia under Peter the Great 1710; and thither, or beyond the Caucasus, still sends criminals for life, or from 4 to 20 years, under circumstances reported to show the worst phases of a condemned system.

In place of destruction of the criminal, or his transportation, prison seclusion with more or less severity of treatment and hard labor came into use as an improved form of forcible repression of crime. Plato, in *De Legibus*, suggested a threefold system, embracing prisons for detention simply, prisons for reformation, and finally prisons at a distance from places of human abode for extreme seclusion; but such an ideal had long to wait. The early European feudal prison was the lord's place of detention for whatever purposes. Later there grew up the idea of intimidating others by the imprisonment of offenders, and whatever might follow it. Penalty of itself, so conceived, could not be reformatory. It was hardening rather than deterrent; and, adopted under law, tended to war between society and the criminal class. Among the most profound movements of the human mind and heart has been that now bearing fruit in complete prison reform; and among notable steps in this movement, embracing its literature and its events, may be mentioned, for the early period, Geoffrey Munshull's *Essayes and Character of a Prison and Prisoners* (1618); Vincent de Paul's appointment as chaplain to the galleys at Marseilles (1622); a book against torture, by John Grevius (1624); Jacob Doepler's *Theatrum Pœnarum* (1693); *Essay toward the Reformation of Newgate and the other Prisons in and about London*, by Dr. Thomas Bray, urging that every prisoner be kept in a separate cell (1699); the erection by Pope Clement XI. (1704) of the prison of St. Michael, for boys and youths, on the system of silent association in labor by day, and separation in cells at night, and with the inscription on its walls, which Howard recognized as prophetic of true reform, *Parum est improbos coërcere pœnâ, nisi bonos efficias disciplinâ*—'It is of little use to restrain criminals by punishment unless you reform them by training.' Mabillon's *Reflections on the Prisons of the Religious Orders* (1724); the initiation by Oglethorpe, founder of Georgia, of a parliamentary inquiry (1728) into the state of jails in the kingdom, which, however, had no result except the general indignation expressed by pamphlets, newspapers, and Hogarth's cartoons; and William Hay's effective exposure of the horrors of English prisons (1735), and urgent suggestion of just remedies; to which Wesley and Whitefield gave powerful support, but without inducing govt. to attempt any change.

A period of far more successful agitation began with the publication (1748) of Montesquieu's *Spirit of the Laws* (22 editions in 18 months); Beccaria's *Crimes and Their Punishment* (1764); Blackstone's *Commentaries* (1765); a memoir by Vilain XIV., of Belgium, proposing to convert the citadel of Ghent into a workhouse (1771), and the construction (1772) by Charles of Lorraine of the prison of Ghent; Dr. Samuel Denne's *Letter to Sir R. Ladbroke*, arguing for 'confinement of criminals in separate apartments' (1771); and John Howard's *State of Prisons* (1778), with the act of parliament produced by Howard, Blackstone, and Eden, for two penitentiaries in England. The great names of the law in France, Italy, and England, had thus prepared European opinion for efforts to abate the scandal of barbarism in prison management everywhere. Howard, having spent some years, 1758–73, in labors of eminent philanthropy at home, and having been made high sheriff of Bedfordshire, began at Bedford jail, and prosecuted with a martyr's zeal, 1773–89, the most extended investigations, to obtain light on prisons and prison discipline. He explored, and reported on, not only all the jails of England, but the prisons of nearly all Europe; and did not shrink from investigating still worse nurseries of suffering, the pesthouses and centres of pestilence, to devise measures of humanity.

Although Howard was designated supervisor for the proposed English penitentiaries, 1780, the plans were not immediately carried out, the govt. adopted transportation instead, and on Howard's death the old abuses recovered their hold for a time. A single first experiment was made 1791 at Gloucester, of a prison aiming at reformation by the seclusion, industrial employment, and moral education, of criminals. In the same year Jeremy Bentham published his *Panopticon or Inspection House*, to expound a practicable plan of prison reform; and 1794 he contracted with govt. to erect a model prison for 1,000 convicts, but without result, until (1813) govt. took up the plan, spent half a million pounds, and opened 1816 the great Millbank prison, with large airy cells for 1,000 prisoners. This costly experiment was for 20 years yet barren of results; and everywhere else in Great Britain the horrors of the old system remained, in spite of laws aimed at their removal. The formation, 1815, of the London Prison Discipline Soc., chiefly through Quaker zeal and the marvellous success of Mrs. Elizabeth Fry's moral cleansing of the women's part of Newgate 1817, set in motion a wide extent of personal work, which greatly advanced reform, not only in Great Britain but on the continent. Buxton's Inquiry ('whether crime and misery are produced or prevented by our present system of prison discipline') appeared 1818. In 1823 Sir Robert Peel carried the consolidated jail act; which, though a crude law making no provision for classifying convicts, yet served to clear away the confusion of old laws, of which the chief result had been to increase crime.

In the United States, the organization, 1776, of the Philadelphia Soc. for Alleviating the Miseries of Public Prisons, had originated a branch of the movement, whose seat, through the sober ardor and sound wisdom of the Quakers, has to this day offered an example to both America and Europe. Edward Livingston, whose code of crimes and punishments was reported to the legislature of La. 1824, has the credit of powerfully promoting prison reform in this country, and of securing in a code of laws due recognition of the true penitentiary principle. He vigorously advocated abolition of the death penalty; made reformation of the criminal the fundamental principle; and found in deprivation of liberty the proper form of punishment, whether absolute isolation, or separation at night and association in labor by day. One of the most notable prison experiments ever made, and one which still gives a great penitentiary second to none in the world, is that of the prison at Philadelphia, established 1829, known as the Eastern Penitentiary of Penn. It has embodied the views especially of the Friends, who conceived that no criminal should be exposed to the evil influence of other criminals in a prison, that the prisoner should be visited and befriended by those from without who will represent only good influences, and that the curse should not be fastened upon him of being known ever afterward to a large number of the criminal class. To carry out these views the plan was devised of separate treatment of each prisoner, making one cell the prison of one, for work by day as well as confinement at night.

Although this separate or cellular system is widely known as the Pennsylvania system, and its merits have caused its extensive adoption on the continent of Europe, no other example occurs in the United States, not even in Penn., which has at Allegheny, in the Western Penitentiary, a typical example of what is known as the congregate system, or as the silent, or Auburn, system, which has separation in cells at night for the prisoners, but congregates them for associated work by day, and requires silence. The Penn. system was tried for a time at Auburn, N. Y., without its better features of work, and visitation from outside in each cell; and was then abandoned for the congregate, with more or less futile effort to enforce the silent feature, for many years, by flogging. With the requirement of silence somewhat relaxed, the congregate system is now general in the U. S. It is considered less costly to establish, more certain of profit from labor, and more wholesome for prisoners, as to both mind and body, than cell seclusion and labor unmitigated by attentions and diversions—which mitigation is not easily practicable except in a large community rich in disciplined charity.

In England, Australia, and Ireland, very remarkable advances in prison reform are connected with the names of William Crawford, Alexander Maconochie, and Walter Crofton. Crawford, who was from 1810 interested in the reform of the penal laws, became sec. to the Lond. Prison Discipline Soc., and edited the annual reports, which grew into large volumes. In 1828 appeared Charles Lucas's *Penitentiary System of Europe and America.* In 1831 De Tocqueville and Beaumont were sent by the French govt. to inspect the prisons of the United States, and reported in terms of praise which strongly impressed the select committee of the house of commons of the same year; and in 1833 Crawford was sent as commissioner to the United States, and made a report, ordered printed 1834, Aug. 11, in which he set forth the demonstrated superiority of the Penn. system of separate cells. This led to the act of parliament 1835, appointing inspectors of prisons in England and Scotland, to take the whole matter out of the hands of local authorities, as had been done in Ireland 1810. Of these inspectors Crawford was the most important. The great prison of Pentonville, built on the model of the Penn. system, was under his charge from 1841 to his death 1847; he was the originator of the Parkhurst Reformatory for juveniles; and he had a chief hand in the reforms which govt. then undertook throughout the kingdom and in the British colonies. Within a few years more than 50 new prisons were built on the same plan as Pentonville, and a system was put in operation which contemplated (1) a limited period of separate confinement, set at first at 18 months, with manifest bad results, and then reduced to 9; (2) hard labor in a public works prison; (3) exile to a colony with conditional liberation. But lack of central authority still prevented uniformity of administration at once punitive, reformatory, and self-supporting. Even the prison act of 1865, consolidating all previous statutes, did not bring success. The final step of legislation was a bill which became law 1877, vesting the control of all jails in a board of prison commissioners, under the home secretary.

Alexander Maconochie and Walter Crofton are credited with some features of prison discipline, which were notably successful as first introduced, and the principle of which is now generally accepted. This was that of a mark system, introduced at Norfolk Island, one of the penal colonies, by Capt. Maconochie 1840, also tried with great success in Ireland by Crofton while chairman of the directors of convict prisons in Ireland 1854-62. The aim of the system was to enable the prisoner to earn remission of a part of his sentence by his industry Under this system there was (1) a stage of 8 months or more of solitary confinement at penal hard labor, but less hard in the second half of the stage than in the first; (2) a stage of associated imprisonment, with 4 classes of prisoners, and promotion from one class to the other according to marks earned by industry; (3) a short stage, not less than 6 months, of probationary detention with training for liberation; (4) conditional liberation under police supervision, and with aid given for finding employment.

In the completed British system, detention before trial is for one to three months; and conviction leads to 'imprisonment' if for not over two years, or to 'penal servitude' if for more than two years. The first is undergone in one of the local prisons, with purely penal hard labor and severe treatment for a period of months, with mitigations month by month, and industrial instruction, educational care, religious ministry according to his creed, wholesome diet, medical treatment, and kindness in all reasonable ways. In penal servitude, which may be for from five years to life, there is (1) a stage of 9 months separate confinement of severely penal character, in one of the great convict prisons; (2) a long stage at a public works prison, with cellular separation except at work, prayers, or exercise, and with associate labor under a general requirement of no intercommunication; and (3) conditional liberation on a license or ticket-of-leave, with stringent conditions to secure honest ways on pain of summary return to prison. After passing the stage of separate confinement, one-fourth of the remainder of the sentence will be remitted for good conduct, except in case of life sentences. These are considered on their merits at the end of 20 years, but no claim to remission can be made. Numerous aid societies throughout Great Britain effectively care for the discharged. Female prisoners have less severe first stage treatment than males, and can earn remission of one-third instead of one-fourth of their sentence, beyond the first stage. Such as give evidence of complete amendment may pass the last 9 months before conditional release in a 'refuge,' where the training is that of a home more than of a prison. For juvenile offenders there is now a complete system of special treatment in Reformatory Schools (q.v.), or for the vagrant and neglected in Industrial Schools (q.v.).

On the continent Belgium has taken the lead in prison discipline, under, first, a trial for 9 years, 1835-44, and then complete adoption, of the cellular system, excluding penal labor and public works, and with means for mitigating the special hardness of the system, which make the administration almost perfect. Prisoners may claim a change to the congregate system after ten years, and for this they are removed to Ghent. Sentence to capital punishment may be pronounced, but is never inflicted. Austria declared 1867 for a system of cellular imprisonment, and has some very complete and perfect new prisons; but has not thus far made great progress toward a uniform system. In Germany, Baden makes cellular imprisonment the general rule; Bavaria uses chiefly the congregate system; Prussia has the two systems side by side in many prisons, with very incomplete provision of separate cells, and with great lack of some of the better features of prison discipline; Saxony has since 1850 made great progress, and since 1854 has carried out a uniform system of using in all her prisons the cellular plan for some, and the congregate for others, according to individual wants, with labor purely industrial and never penal; and Würtemberg has mainly the congregate system, but with the cellular for women since 1865, and one prison on that plan for men. France, which clings still to transportation, and has a great variety of prisons, adopted 1875 the principle of cellular confinement; but has made little more than a beginning in changing from the congregate system which is chiefly in use. Labor is wholly industrial, never penal; classification is carried out to some extent; and the system of reformatory schools is well developed. Italy has not yet reached a uniform system: there are some prisons using the cellular plan only; some which use both that and the congregate; but the great number are of the congregate type, with thus far good results. In Holland the sentence may be to one or the other kind of confinement, for sentences not exceeding 4 years, but limiting the cellular to the first half of the term, and with industrial, never penal labor. Norway uses the congregate system for all prisons except that of Christiania. Sweden, which made very great progress from 1840, when Oscar I. published a work on *Punishments and Prisons*, has had a large number of cellular prisons, with others on the congregate plan for those sentenced to more than two years. In Switzerland the congregate system is chiefly in use, with one wholly cellular prison at Neuchatel. Spain has the worst system in Europe, without cellular separation; and Portugal similarly lags behind. Russia, whose system of transportation is one of the blots on the modern world, has used almost wholly the congregate system. With the abolition of serfdom and disuse of corporal punishment, a new penitentiary system became necessary, with great increase of prison accommodations. Central prisons are provided for serving out short sentences, and for penal probationary detention of those under long sentences, preparatory to 'enforced colonization.'

The prison system of the United States, composed of 44 state systems, not only lacks uniformity, but shows many examples of prisons, recently, if not now (1891), very unworthy of the country which initiated prison reform 1786, and in which first were made the chief experiments in the direction of a system both to deter and to reform. In great part this is due to the incomplete development of the newer states, and to the financial weakness of the southern states, where the vicious lessee system survives. The very great number of county and municipal prisons, the extent to which political considerations set aside the most evident requirements of prison discipline, and the difficulty of securing superior ability for inferior pay, have led to most unsatisfactory results. The absolute need is of central authority perfectly independent, with the strictest regard to sound principles of prison discipline. In 1870 there were in prison for crime in the United States 853 out of every million of population. In 1880 the number in prison had risen to 1,069 out of every million. And for 1880–90 even such a state as Mass. reports 'alarming evidence that the more serious crimes are more frequent.' The average age of the convicts in the United States is but a month or two more than 26 years. In the direction of Reformatories the United States has shown very fine examples; e.g., the Elmira, N. Y., under Z. R. Brockway, founded 1877; the Industrial, which Penn. has provided at a cost of over $1,000,000; the Concord, Mass.; and others in the states most attentive to advancements.

There are in the United States four systems of prison labor: (1) that of leasing out prisoners, which is confined to the southern states; (2) that of piece-prices; (3) the contract system; (4) the public account system. The last has been alone in use in Penn. since 1887, Nov. 1, and in the Eastern Penitentiary it is entirely with hand labor, except such work as comes under prison duties. Every competent prisoner is taught a trade, either shoe-making, stocking-making, cigar-making, or chair-making. Each has an assigned task, and for over-work has half of what the product is worth. How to employ convicts in useful work without undue competition with outside labor, has been much agitated in connection with prisons. Carroll D. Wright, U. S. commissioner of labor, was instructed by congress 1886, Aug., to make a full investigation, and his report, 1887, Feb. 28, said: 'The plan of hand labor under the public account system offers many advantages over any other that has been suggested. With such a plan there could be no complaint as to the effect of convict labor upon the rates of labor, or upon the sale of goods, either in price or quantity. It allows every effort for reformation without any entanglement or interference through forms of labor. Reformation with incidental profits should be the rule, and not profits with incidental reformation.' During recent years, 1885-90, energetic agitation against prison labor, and new laws, have seriously threatened some of the best prison interests of the country. Warden E. J. Russell, of the Mass. state's prison, says that the discussion 'has nearly undermined the discipline of all the prisons in the country.'

The National Prison Assoc. was founded at Cincinnati, 1871, to ensure national attention to the general problems of prison reform, and to supplement the work of the state organizations. It started from the interest taken by the Rev. Dr. E. C. Wines, then sec. of the N. Y. Prison Assoc. Its objects are: (1) to secure improved laws and improved procedure in executing laws; (2) to bring all the institutions which deal with criminals up to the level of thorough reform, in plans and administration; (3) to perfect that part of the system which provides help for discharged prisoners. The state associations, notably that of N. Y., have prosecuted many details of reform of public treatment of criminals, and local societies co-operate with these. International prison congresses have been held: 1845 at Frankfort-on-the-Main, 1846 at Brussels, 1857 at Frankfort again, 1872 at London. At the London cong. there was organized, by representatives of 34 nations, a permanent International Penitentiary Commission, which has convened congresses 1878 at Stockholm, 1886 at Rome, and 1890 at St. Petersburg.—See CONVICT: REFORMATORY SCHOOLS: JUVENILE OFFENDERS: HOWARD, JOHN.

PRISREND, *prĭs-rĕnd':* town of European Turkey (Albania), cap. of a dist. on the Rieka, 80 m. e. of Scutari. It is one of the most beautiful, rich, and industrious towns in Turkey, with a citadel more than 1,100 ft. above sea-level. It contains an immense number of bazaars, and has active trade in flints, saddlery, glass, copper, and steel wares. Among its edifices are 15 mosques. Pop. 35,000,

PRISTINA, *prĭs-tē'nâ:* town of European Turkey, vilayet of Monastir, on a hill 30 m. n.n.e. of Prisrend. It is the most considerable town in Old Servia. Pop. 12,000.

PRISTINE, a. *prĭs'tĭn* [L. *pristĭnus*, former, early: It. *pristino*]: pertaining to an earlier state or period; original; ancient; first.

PRISTIS, n. *prĭs'tĭs* [Gr. *pristis*, a sawfish—from *priō*, I saw]: the sawfish, having a long, flat, horny beak, armed on either side like a saw; in *geol.*, the fossil beaks or saws of extinct species. See SAWFISH.

PRITHEE, v. *prĭth'ĭ:* a corruption of the phrase 'I pray thee.'

PRITHU, *prē'thô:* name of several legendary kings of ancient India. Especially one king of this name is the favorite hero of the Purân'as. His father was Ven'a, who perished through his wickedness in withholding worship and gifts from the Brahmans. His kingdom, thus left without a king, was supplied with one in the person of P. who, by the magic arts of the sages, was produced from the dead body of his father. He came forth in invincible might and wrought stupendous deeds changing the whole face of the earth. This legend, drawn out into absurd details, is thought to be based on the civilizing influence of some king of Hindu antiquity.

PRIVACY: see under Private.

PRIVATE, a. *prī′vāt* [L. *privātus*, peculiar to one's self —from *prīvus*, one's own, private: It. *privato*]: unconnected with others; peculiar to one's self; belonging to an individual only, or to a select number of persons; not open; not public; retired; sequestered; not holding a public office: N. a common soldier of the cavalry and infantry; the corresponding rank in the artillery being gunner or driver, and in the engineers, the sapper: a private in the cavalry is sometimes called a trooper. In *OE*, a secret message; privacy. Prī′vately, ad. *-lĭ*, not openly; secretly. Prī′vateness, n. *-nĕs*, seclusion from company or society; retirement. Privacy, n. *prī′vă-sĭ* or *prĭv′ă-sĭ*, a place of seclusion, retreat, or retirement; the place intended to be secret; secrecy. Privateer, n. *prī′vă-tēr′*, in *time of war*, an armed ship belonging to a private person or persons, sailing with a license from government to attack, plunder, and destroy the shipping of a hostile nation (see below): V. to cruise or sail in a privateer. Prī′vateer′ing, imp.: N. the calling or practice of a privateer. Prī′vateered′, pp. *-tērd′*. In private, not openly or publicly; secretly. A private act or statute, in *law*, one which operates on a particular person or a class of persons. Private way, a way not for general use.—Syn. of 'privacy': retirement; solitude; seclusion; loneliness; retreat; concealment; secrecy; obscurity.

PRIVATEER, *prī-vă-tēr′:* ship not owned by the govt., but under govt. permission, expressed by a Letter of Marque (q.v.), to make war on the shipping of a hostile power. To make war on an enemy, with a private vessel without this commission, or on the shipping of a nation not specified in the commission, is piracy. Privateering was abolished by mutual agreement among European nations, except Spain, by the Treaty of Paris 1856. It is doubtful, however, how far that abolition would stand in a general war, for privateering is the natural resource of a nation which does not maintain a regular navy adequate to cope with a hostile maritime power, especially when the latter offers the temptation of a wealthy commerce.

The four points of the Treaty of Paris were: 1. 'Privateering is and remains abolished. 2. The neutral flag covers enemy's goods, with the exception of contraband of war. 3. Neutral goods, with the exception of contraband of war, are not liable to capture under an enemy's flag. 4. Blockades, in order to be binding, must be effective, i.e., maintained by a force sufficient really to prevent access to the coast of an enemy.' The United States, as a condition of accepting, demanded the amendment of the first clause by adding that 'the private property or the subject or citizen of a belligerent on the high seas shall be exempted from seizure by public armed vessels of the other belligerent, except it be contraband of war:' and as the European powers declined to make that concession, the United States rejected the treaty. In 1861, after the outbreak of the civil war, the United States offered to accede to the 4 articles without the amendment, but England and France then insisted that the Confederate privateers should be recognized as sailing under lawful powers.

PRIVATION, n. *prī-vā'shŭn* [L. *prīvātio*, privation—from *privārĕ*, to bereave]: the state of being deprived of something, particularly in necessaries of life; act of removing something from another; hardship; absence in general. PRIVATIVE, a. *prĭv'ă-tĭv*, consisting in the absence of something; not positive: N. that which depends on the absence of something else; a prefix denoting absence or the opposite. PRIV'ATIVELY, ad. *-lĭ*.

PRIVET, n. *prĭv'ĕt* [probably connected with PRIM, which see: OE. *prime*, to trim trees], (*Ligustrum*): genus of plants of nat. order *Oleaceæ*, containing a number of species of shrubs and small trees with opposite leaves, simple and entire at the margin; the flowers small, white, and in terminal panicles; the calyx slightly 4-toothed; the corolla funnel-shaped and 4-cleft; the stamens two, projecting beyond the tube of the corolla; the berries 2-celled. COMMON P. (*L. vulgare*) is a shrub growing in bushy places and about the borders of woods in middle and s. Europe, and in parts of Britain, now also naturalized in parts of N. America. It has half-evergreen, smooth, lanceolate leaves; and berries about the size of peas, black, rarely white, yellow, or green. The flowers have a strong and sweetish odor; the leaves, mildly astringent, were formerly used in medicine; the berries, which hang on the shrub during winter, have a disagreeable taste, but are food for many kinds of birds; they are used for dyeing red, and with various additions, green, blue, and black. A rose-colored pigment obtained from them is used for coloring maps. The wood is hard, and is used by turners, and for shoe-pegs. P., though not spiny, is much used for hedges, often mixed with some spiny shrub, or with beech. It bears clipping well, and grows well in the smoke of towns, also under the shade of trees.—A number of species are natives of different parts of the East, and some of them have been introduced into western Europe.—All kinds of P. grow readily from cuttings.

PRIVILEGE, n. *prĭv'ĭ-lĕj* [F. *privilége*—from L. *prīvĭlēgĭum*, an ordinance in favor of a person, a privilege—from *prīvus*, separate, private; *lex* or *legem*, a law: It. *privilegio*]: a right enjoyed alone or with few; a peculiar benefit or advantage; favor; advantage. In its legal sense, P. is a special ordinance or regulation, in virtue of which an individual or a class has certain immunities or rights beyond the common provisions of the general law of the community. It differs from a *dispensation* inasmuch as the latter merely relaxes the existing law for a particular case or cases, while the P. is a permanent and general right. Of ancient and mediæval legislation, the P. formed an important branch; in truth, the condition of the so-called 'privileged classes' was different, socially, civilly, and even religiously, from that of the non-privileged. In canon law, there were two privileges pertaining to the clergy, which are frequently alluded to in history—the 'privilege of the canon' (*privilegium canonis*) and the 'privilege of the forum' (*privilegium fori*). By the former, the person of the clergymen, of whatever degree, was protected from violence by the penalty of excommunication against the offender; by the latter—known in England as 'Benefit of Clergy' (q.v.)—the clergyman was exempted from the ordinary civil tribunals, and could be tried only in the ecclesiastical court. Most of the purely civil privileges are abolished throughout Europe by modern legislation. PRIVILEGE, v. to invest with rights or immunities; to grant some particular and peculiar benefit to; to exempt, as from censure, or from paying a tax or impost. PRIV'ILEGING, imp. PRIV'ILEGED, pp. *-lĕjd:* ADJ. endowed with privileges; enjoying rights or immunities not granted to others. PRIVILEGED COMMUNICATIONS, confidential letters which cannot be used in a court of law. PRIVILEGED DEBTS, in *Scotch law*, debts first to be paid out of certain funds; e.g., in bankruptcy, servants' wages (to a certain extent). PRIVILEGED DEEDS, holograph deeds, exempt from the usual requisition of signature before witnesses.—SYN. of 'privilege': prerogative; right; claim; pretension; immunity; franchise; liberty.

PRIV'ILEGES AND IMMU'NITIES of Citizens of each State, in the Several States in the Union: privileges not to be abridged by state or local laws. The constitution of the United States, article IV., sec. 2, par. 1, provides that 'the citizens of each state shall be entitled to all privileges and immunities of citizens in the several states.' By the XIVth amendment to the constitution (sec. 1), it is provided that 'no state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property without due process of law, nor deny to any person within its jurisdiction the equal protection of the laws.' What are the immunities and privileges of the citizens in the several states thus guaranteed? At the outset it may be noticed that personal liberty, the corner-stone of a republican government, is forever placed on a secure foundation by amendment XIII., which declares that 'neither slavery nor involuntary servitude, except as a punishment for crime, whereof the party shall have been duly convicted, shall exist within the United States, nor any place subject to their jurisdiction.' The imprisonment of duly convicted criminals is not in conflict with this section, nor is the letting of them out for hire to contractors. By amendment IV., the principle of the English common law that 'every man's house is his castle' is adopted in the words 'the right of the people to be secure in their persons, houses, papers, and effects against unreasonable searches and seizures shall not be violated.' This provision against *unreasonable* searches and seizures, permits in civil and criminal cases searches and seizures in cases expressly authorized by law. Resistance to an illegal seizure is permitted, but no more force is allowed in repelling an intrusion than is under the circumstances absolutely necessary. By amendment II. 'no soldier shall in time of peace be quartered in any house without the consent of the owner, nor in time of war, but in a manner to be prescribed by law.' Referring to this salutary provision, Judge Cooley (*Constitutional Limitations*, 5th ed. p. 375) says: 'To us, after four-fifths of a century have passed since occasion has existed for complaint of the action of the government in this particular, the repetition of this declaration seems to savor of idle form and ceremony, but "a frequent recurrence to the fundamental principles of the constitution" can never be unimportant, and indeed may well be regarded as "absolutely necessary to preserve the advantages of liberty, and to maintain a free government."' To secure the citizen against unjust criminal accusations, and to provide him with a proper trial when accused, the constitution contains a number of safeguards; thus, by sec. 9, par. 2, the privilege of the writ of *habeas corpus* is not to be suspended, unless the public safety in cases of rebellion or invasion, requires. By article III. par. 3, jury trial is guaranteed for all crimes except cases of impeachment, and the furthermost important provision is made that such trial is to be had in the state where the crime has been committed, but when not committed within any state, the trial is to be had at such place as congress may by law have directed. This clause of the constitution, however, has not been interpreted to mean that a person accused of crime is entitled to a jury trial in all criminal prosecutions. It has been held that the accused is not entitled to a jury trial in the case of petty crimes and misdemeanors, but only in the case of graver crimes, where at common law the accused was entitled to a jury trial. As additional precautions in criminal trials, amendment V. provides that no person is to be held to answer for a capital or otherwise infamous crime, unless on a presentment or indictment of a grand jury, except in cases occurring in the army or navy; or in the militia during war or in time of public danger. As to amendment V., it has been decided that it was not intended to operate on the state governments or to restrict their action on their own citizens, but applies to the general govt. alone. As to what is an 'infamous' crime within the meaning of the amendment, the opinion prevails that no crime is 'infamous,' unless expressly made so or declared a felony by act of congress. This amendment also provides that a person shall not be put in jeopardy of life or limb twice for the same offense; nor be compelled in any criminal case to be a witness against himself; nor be deprived of life, liberty, or property without due process of law. By article VI. the accused is guaranteed the right to a speedy and public trial by an impartial jury of the state and district wherein the crime shall have been committed, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him, and have compulsory process for obtaining witnesses in his favor; and to have the assistance of counsel for his defense. Excessive bail, excessive fines, cruel and unusual punishments, all are forbidden by article VIII. The great majority of the foregoing constitutional provisions have also been specifically embodied in the constitutions of the several states, but whether embodied or not, the citizen's protection is ample, and in case of violation redress may usually be had by means of the writ of *habeas corpus*, or in an action for damages.

PRIVY, a. *prĭv'ĭ* [F. *privé*, private—from L. *prīvus*, one's own, particular]: assigned to private uses; not open or public; secret; admitted to the joint knowledge of some secret; admitted to state secrets: N. a place of retirement; a necessary house; a water-closet. PRIV'ILY, ad. *-lĭ*, secretly. PRIV'ITY, n. *-tĭ*, private knowledge implying consent or concurrence; joint knowledge; secrecy. PRIVY CHAMBER, the private apartment in palace or mansion. GENTLEMEN OF THE PRIVY-CHAMBER, officers of the royal household of England, instituted by Henry VII., to attend on the king and queen at court, and in their progresses, diversions, etc.: in recent years this office has been without service or salary. There are also four Gentlemen Ushers of the Privy-chamber, in regular attendance on the sovereign, waiting in the presence-chamber, and attending on the royal person; they have the honor of conducting the queen in the absence of the higher officers. PRIVY-COUNCIL, principal council of the sovereigns of England. PRIVY COUNCILOR, a member of the sovereign's council of advisers (see PRIVY-COUNCIL, below). PRIVY-PURSE, money set apart for the personal or private expenses or charities of the sovereign; the title of the person having charge of this money—the keeper of the privy-purse.

PRIVY-COUNCIL of England (*consilium regis privatum*): assembly of advisers on matters of state appointed by the sovereign. The privy-council existed very early in the history of the country. It was in its beginning a small permanent committee, or minor council, selected by the king out of the great council, or parliament; and in its powers were included—what still forms one of its functions—the right to inquire into all offenses against the state, and to commit offenders for trial before the proper courts of law. It also frequently assumed the cognizance of questions of private right, a practice against which the statute 16 Charles I. c. 10 was directed, enacting that neither king nor council should have any jurisdiction in matters regarding the estates and liberties of the subject, which should be tried instead in the ordinary tribunals of the country. The Council in early times consisted of the Chancellor, the Treasurer, the Justices of either bench, the Escheaters, the Sergeants, some of the principal Clerks of the Chancery, and other members nominated by the king, who were generally bishops, earls, and barons. The Star Chamber and Court of Requests were committees of P.-C. The number of members, originally 12, was gradually increased; and when the large number had became inconvenient, the sovereign sought the advice of a select body of the more eminent among them. Charles II. limited the number of councilors to 30, of whom 15 comprised the chief officers of state and the *ex-officio* members, to whom were added 10 peers and 5 commoners named by the sovereign; and it was intended that the Council, thus remodelled, should practically resume its original duties, and have the control of every part of the executive administration. The Court of P.-C. has, however, long ceased to discharge the function of advising the crown on general affairs of govt. and state policy, and a select number of the body, under the denomination Cabinet Council, forms the recognized executive council of the crown: see MINISTRY. The list of privy-councilors now includes the members of the royal family, the Abps. of Canterbury and York, the Bp. of London, the great officers of state, the Lord Chancellor and the Lord Chief Justice, the Lord Justices of Appeal, the Ecclesiastical and Admiralty Judges, and the Judge Advocate, several of the other English Judges, and of the Scottish Judges, the Speaker of the House of Commons, the Ambassadors, some of the Ministers Plenipotentiary and Governors of Colonies, the Commander-in-chief, the Master-gen. of the Ordnance, the First Lord of the Admiralty, and generally also a Junior Lord of the Admiralty, as well as necessarily all the members of the Cabinet. The Vice-pres. of the Board of Trade, the Paymaster of the Forces, and the Pres. of the Poor-law Board, also are generally members of the P.-C.; and sometimes other persons who have filled responsible offices under the crown. It is now understood that no members attend the deliberations of Council except those who are especially summoned. In ordinary cases, only the ministers, the great officers of the household, and the Abp. of Canterbury, are summoned; but on some extraordinary occasions, summonses are sent to the whole Council—this was last done to receive Queen Victoria's communication of her intended marriage. Meetings of Council are held usually at intervals of three or four weeks at the sovereign's residence; and the attendance of six privy-councilors at least, with one of the clerks of Council, is considered necessary to constitute a council.

A privy-councilor must be a natural-born subject of Great Britain. The office is conferred by the sovereign's nomination, without any patent or grant, and completed by taking the oath of office. The duties of a privy-councilor, as defined by this oath, are—to the best of his discretion, duly and impartially to advise the king; to keep secret his council; to avoid corruption; to strengthen the king's council in all that by them is thought good for the king and his land; to withstand those who attempt the contrary, and to do all that a true councilor ought to do to his sovereign lord. The office of privy-councilor formerly fell by the demise of the crown; but by 6 Anne, c. 7, the P.-C. continues to exist six months' longer, unless sooner determined by the successor. Immediately on decease of the sovereign, the P.-C. now assembles and proclaims his successor, the lord chancellor affixing the Great Seal to the proclamation. The members of the P.-C. are then resworn as council of the successor, and take the oath of allegiance, after which a P.-C. is held, and the sovereign makes a declaration of his designs for the good government of the realm, and subscribes the requisite oaths.

The king in Council, or a committee of the lords of Council, have been empowered by various statutes to issue orders which are to have the force of law, parliament thus delegating its authority to regulate such matters as may be more conveniently regulated by Order in Council. In cases of extreme public emergency, at a time when parliament was not sitting, Orders in Council have sometimes been issued in contravention of the existing law, and the indemnification of parliament has afterward been sought: see ORDERS IN COUNCIL. The sovereign, with advice of the P.-C., is empowered also to issue proclamations, which, however, must be in accordance with, and in furtherance of, the law of the land: see PROCLAMATION.

Almost every act of importance done by the sovereign in person is performed in Council—such as declarations of, or public engagements by, the sovereign, and consent to marriages by members of the royal family. The sovereign in Council has still more ample authority in all that relates to the colonies, including the making and enforcing of laws in such colonies as have no representative assemblies; and approving or disallowing the legislative acts of such as do possess them.

A large part of the business of the P.-C. is transacted by committees, to which petitions and other matters are submitted by the sovereign in Council. Among permanent committees of P.-C. are the Board of Council for Trade and Foreign Plantations (see TRADE, BOARD OF); the

Committee of Council for Education, to distribute the sum voted annually for educational purposes; and the Judicial Committee of P.-C., consisting of the great judicial officers, and some others, which was established to decide various judicial appeals: many of its powers were transferred 1873 and later to the newly constituted Court of Appeal (see APPEAL); but the P.-C. remains the great court of appeal in ecclesiastical matters. The acts of committees of the P.-C. are designated Acts of the Lords of the Council, in distinction from Orders in Council, made by the sovereign personally present, by advice of the P.-C. The crown may refer to a Committee of Council any petition or claim of right for which the ordinary tribunals afford no remedy. Certain state investigations, not of criminal matters, have also been held to fall within the jurisdiction of the lords of Council; e.g., the inquiry into the insanity of George III., the claim of Queen Caroline to be crowned as consort of George IV., and questions regarding alleged illegal marriages of the royal family.

The P.-C. is styled collectively 'Her Majesty's most Honorable Privy-council.' Privy councilors are entitled to the designation 'Right Honorable' prefixed to their names. The Lord Pres. of the Council is the fourth great officer of state, and is appointed by letters-patent under the Great Seal. The office is very ancient.

Scotland possessed a Privy-council, which was merged in that of England by 6 Anne c. 6. There is a Privy-council for Ireland, at present of 58 members.

PRIVY-COUNCIL (COMMITTEE OF) ON EDUCATION, now called The Education Department: committee of the Brit. govt. for furtherance of educational interests. Till about 1833 primary education in England was left in the hands of individuals and societies; but the prevailing destitution was too widespread to be met by voluntary associations; and the state entered on the policy of making grants to certain schools for erection of buildings, which grants were extended about 1840 to the aid of *all schools in which the Bible was daily read from the authorized version.* In 1846, the first step seems to have been made toward grants for *maintenance* of schools. It was resolved to apprentice promising boys and girls, the young persons (who were to be at least 13 years of age on appointment) giving assistance in the school-work, and receiving separate instruction for one hour and a half daily from the principal teacher. They were called 'pupil teachers,' and were paid small salaries.—'The New Code' was introduced by Mr. Lowe (Lord Sherbrooke) 1862, and was founded on the principle of 'payment by results,' which is maintained under the national system. The teachers receive no direct payment from the department; but are left to make their own conditions with their managers. The grants are paid to the managers, and the distribution is left entirely in their hands. Pupil-teachers must now be 14 years of age on appointment, and are apprenticed for not more than four years.

These principles of administration regulated the action of the Privy-council till the English Education Act 1870, and the Scotch Education Act 1872. These acts effected a complete revolution in elementary education in Great Britain. For an account of the new national system, with its popularly elected school-boards, and its provisions with regard to compulsory education (for all children over five years of age), and other enactments, see EDUCATION, NATIONAL OR STATE. The consequence has been a rapid increase in the number of primary schools and of children at school; and the progress reported by inspectors is highly gratifying. Each Normal School or Training College now receives a grant of £100 for every master, and of £70 for every mistress, who, having been trained in such college during two years, obtains a certificate as a teacher in a public elementary school after two years' service. The proceedings of the Privy-council Committee are ordered under the Education Acts, above referred to, but they do not materially differ in principle from the code of 1863. They are in large degree the same for England, Wales, and Scotland.

PRIVY-SEAL, in England: seal appended to grants which are afterward to pass the Great Seal, and to documents of minor importance which do not require the Great Seal. The officer who has the custody of the P. S. was at one time called the Keeper, and afterward the Lord P.-S. As early as the reign of Edward III., he was a member of the king's council, and a responsible minister of the crown. The Lord P.-S. is now the fifth great officer of state, and has usually a seat in the cabinet: his office is conferred under the Great Seal during pleasure. Since the reign of Henry VIII., the P.-S. has been the warrant of the legality of grants from the crown, and the authority for the lord chancellor to affix the Great Seal. Such grants are styled letters-patent, and the office of the Lord P.-S. is one of the departments through which they must pass to secure their validity.

PRIZE, n. *prīz* [F. *prise*, a taking, booty: OF. *pris;* F. *prix*, a price—from L. *prĕtĭum*, a price]: that which is gained by, or offered for, some performance; a reward; a premium; a capture from an enemy—applied to taking a vessel at sea (see PRIZE—PRIZE-MONEY): the money or goods gained by a lottery-ticket; anything of value gained: V. to set a price on; to value; to esteem highly. **PRI′ZING**, imp. **PRIZED**, pp. *prīzd.* **PRI′ZER**, n. *-zėr*, in *OE.*, one who values; one who contends for a prize. **PRIZE-BOOK**, a book given as a reward of merit or superior excellence to the pupil of a school, or to the student of a college. **PRIZE-COURT**, court which adjudicates on all captures made in war on the high seas, or of slave vessels (see below). **PRIZE-FIGHTER**, one who publicly fights another for money. **PRIZE-FIGHTING**, a public pugilistic contest or battle for money. **PRIZEMAN**, the winner of a prize. **PRIZE-MONEY**, in *nav.* or *mil.*, money paid to the captors of a ship or a place from which booty has been obtained, in certain proportions according to rank, the money divided being realized from the sale of the booty (see BOOTY: PRIZE—PRIZE-MONEY). **PRIZE-RING**, the ring or inclosure for a prize-fight, usually spoken of as *the ring;* the system and practice of prize-fighting. *Note.*—In the above entry it is to be noted that there are two distinct words, in the common usage of which hopeless confusion has ensued—PRIZE, 'a capture,' is derived from L. *prehen′dĕrĕ*, to seize; PRIZE, 'a reward,' from L. *prĕtĭŭm*, a prize.

PRIZE, v. *prīz:* to force with a lever: see PRISE.

PRIZE-COURT: court which adjudicates the property in vessels captured at sea from a belligerent; and the rule is, that when a captor brings home a prize, the tribunal of his own country has jurisdiction to declare whether he is entitled to it, which decision is binding everywhere. A P.-C. differs from other courts in this, that the property of foreigners is brought within its jurisdiction, not by consent, as is implied with regard to the ordinary municipal courts, but by force. By natural law, one would suppose that the tribunals of the captor's country are no more the rightful exclusive judges of captures in war, made on the high seas from under the neutral flag, than are the tribunals of the neutral country. Nevertheless, such is the rule of international law, which vests this jurisdiction in the prize-court.

PRIZE—PRIZE-MONEY: terms having reference to property captured from an enemy, or to enemy's property captured from a neutral in time of war: for the circumstances under which such capture is justifiable, see CAPTURE, as regards naval operations; for military prize and its distribution to the army, see BOOTY. It remains therefore to notice the procedure with vessels and property captured by the navy.

PRIZE, in the United States, is governed by the Federal statute of 1864, June 30, providing a complete system of condemnation proceedings in the federal dist. courts, with appeal to the U. S. supreme court. By this statute the first duty of the commanding officer of the vessel which has made the capture, is to send the captured prize, under charge of a competent prize-master and prize-crew, with all documents and papers found on her, into port for adjudication as a prize. In the absence of instructions, he is to select the most convenient port, the interests of all claimants being considered. If the captured vessel is not in condition to be sent into port, an appraisement is to be made, the property sold, and the proceeds deposited with an assistant treasurer of the United States most accessible to the court which is to make the adjudication. The prize-master having reported to the federal dist.atty. of the dist. in which the adjudicating court is located, the latter officer files a libel against the prize property, which property is given over to the custody of the marshal pending the adjudication and distribution. Prize commissioners not exceeding three in number are then appointed; who take the depositions of the prize-master, crew, and other witnesses, and report to the court. After condemnation a sale of the prize property at auction is ordered. The statute provides that the net proceeds of all property condemned as prize, shall, when the prize was of superior or equal force to the vessel making the capture, be decreed to the captors; and when of inferior force, one half shall be decreed to the United States, and the other half to the captors, except that in case of privateers and letters of marque, the whole shall be decreed to the captors, unless otherwise provided in the commissions issued to such vessels. It is further provided that all vessels of the navy within signal-distance of the vessel making the capture, under such circumstances and in such condition as to be able to render effective aid, if required, shall share in the prize; and in case of vessels not in the navy, none shall be entitled to share except the vessel or vessels making the capture; in which term shall be included vessels present at and rendering actual assistance in the capture. A bounty is paid by the United States for each person on board any ship or vessel of war belonging to any enemy at the commencement of an engagement, which is sunk or otherwise destroyed in such engagement by any ship or vessel belonging to the United States or which it may be necessary to destroy in consequence of injuries sustained in action. In case of recapture, salvage is decreed to the captors, depending on the ownership of the property retaken.

PRIZE-MONEY.—The distribution of prize-money is regulated by U. S. Stat. 1864, June 30, which provides the method of condemnation. In case of vessels not of the navy, and not controlled by any department of the govt., the amounts decreed to the captors are to be divided between the owners of the vessel and the ship's company, according to any written agreement between them, and in the absence of such agreement, one-half to the owners, and one-half to the ship's company, according to their respective rates of pay on board. In case of vessels not of the navy, but controlled by either executive department, the whole amount decreed to the captors is divided among the ship's company. In case of vessels of the navy, the distribution of prize-money is in the following proportions:

First: To the commanding officer of a fleet or squadron, one-twentieth part of all prize-money awarded to any vessel or vessels under his immediate command.

Second: To the commanding officer of a division of a fleet or squadron, on duty under the orders of the commander-in-chief of such fleet or squadron, a sum equal to one-fiftieth part of any prize-money awarded to a vessel of such division for a capture made while under his command, such fiftieth part to be deducted from the moiety due to the United States, if there be such moiety (see above), otherwise from the amount awarded to the captors; but such fiftieth part shall not be in addition to any share which may be due to the commander of the division, and which he may elect to receive, as commander of a single ship making or assisting in the capture.

Third: To the fleet capt., one-hundredth part of all prize-money awarded to any vessel or vessels of the fleet or squadron in which he is serving, except in a case where the capture is made by the vessel on board of which he is serving at the time of such capture; and in such case he shares in proportion to his pay, with the other officers and men on board such vessel.

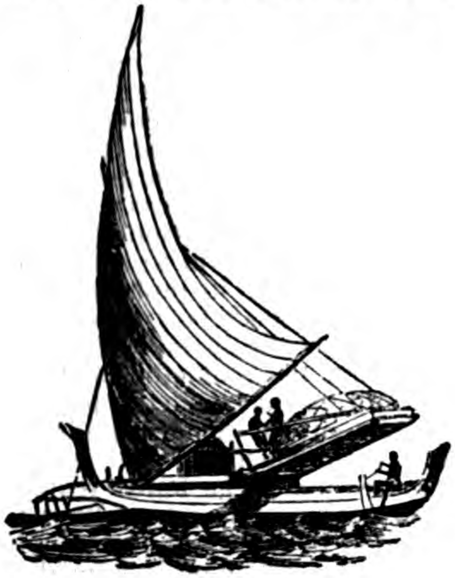
Fourth: To the commander of a single vessel, one-tenth part of all the prize-money awarded to the vessel under his command, if such vessel at the time of the capture was under the command of the commanding officer of a fleet or squadron, or a division, and three-twentieths if his vessel was acting independently of such superior officer.

Fifth: After the foregoing deductions, the residue is distributed and proportioned among all others doing duty on board, including the fleet capt., and borne on the books of the ship, in proportion to their respective rates of pay in the service. Assignments of prize-money due to persons in the navy are allowed; but they are void unless attested by the capt. or other commanding officer and by the paymaster. By U. S. rev. statutes, sec. 1430, all commanding officers are required to discourage their crews from selling any part of their prize money, bounty-money, or wages, and are never to attest any power of attorney for the transfer thereof, unless satisfied that the same is not granted in consideration of money given for the purchase of prize-money, bounty-money, or wages.

PRI'ZZI, *prĭt′sè:* town of Sicily, province of Palermo, 30 m. s.-by-e. from Palermo. It is of considerable commercial importance. Pop. 10,000.

PRO, *prō* [L. *pro*, for: Gr. *pro*, before]: a prefix, signifying 'for; forth; forward; out'—as in *pro*ceed, *pro*vide. PRO is sometimes changed into PUR, as in *pur*sue, *pur*pose: N. the positive side of a question. PRO AND CON, *kŏn* [L. *pro*, for, and *contra*, against]: for and against—that is, both sides of a question. PROS AND CONS, reasons or arguments for and against a thing.

PROA, n. *prō'ă*, or PRAHU, n. *prâ'ō* [Malay]: commonly known as the 'flying proa': peculiarly-shaped canoe in use by natives of the Eastern archipelago, especially by the Ladrone pirates. It is about 30 ft. in length by 3 in width, and has the stem and stern equally sharp, so as to sail forward or backward without turning round. It is propelled both by oars and by sails, and is remarkable for speed. One side is flat, and in a straight line with the stem and stern; the other side is rounded, as in ordinary boats. This peculiar formation would make it liable to be easily upset, were it not for a framework which projects to windward, supporting a weight which counterbalances the pressure of wind on the sail. The sail resembles the ordinary lug-sail, and is formed of mat. Slight variations from this form are found, but the principle of construction is the same.



Proa.

PROBABIL'IORISM: see PROBABILISM.

PROBABILISM, *prŏb'a-bĭl-ĭzm:* barbarous technical word, used in Rom. Cath. theology to denote the doctrine, chiefly of the Jesuits, according to which it is lawful to follow a *probable* opinion on doubtful points if inculcated by a teacher of authority, though another may on some accounts appear to the mind of the inquirer more probable. The word came prominently into discussion in the 17th c., and seems now fully accepted as a technical name. As the ground of the doctrine, it is assumed that, in human actions, absolute certainty is not always attainable as to their lawfulness or unlawfulness. Short of this certainty, the intellect passes through the stages of 'doubt' and of 'probability.' In the stage of doubt it is swayed between conflicting views, unable to decide, or even to approach toward deciding, what is true. In the stage of probability, though there is conflict of views, yet the reasons in their favor are not so equal that the intellect cannot see preponderating motives in favor of one or the other. Moreover, in the conflict of views, another element will arise, as to their comparative 'safety,' that is, the greater or less danger of moral culpability which they involve; and this greater or less moral 'safety' of a view may, or may not, coincide with its greater or less 'probability.' The doctrine of P. is founded on these distinctions; and it presents itself in four different schools, all of which agree in professing that it is lawful, in certain cases, to act on opinions merely 'probable.' Opposed to all these four, is the school of *Anti-probabilism,* which rejects altogether the use of probable opinions, and requires that an opinion shall be absolutely morally certain, in order that it may be lawful to act upon it. The four schools of P. are called: *Probabilism Simple, Æqui-probabilism, Probabiliorism* (from *probabilior,* more probable), and *Tutiorism* (from *tutior,* more safe). The first holds that it is lawful to act on any probable opinion, no matter how slight its probability. The second requires that the opinion shall be 'solidly probable,' but holds that, provided it be really probable, it is lawful to act on it, even though the conflicting opinion be equally probable. The third, in the conflict of probable opinions, will permit us to act only on the more probable of the two; but permits this even when the less probable adverse opinion is the 'more safe.' The fourth requires that in all cases the more safe opinion shall be followed, even when the less safe opinion is much the more probable. It is commonly said that the system of P. is modern; but this is true only of the discussions regarding it, for the doctrine itself, in some of its forms, is as old as the study of ethics, even considered as a moral science. The disputes regarding it arose with the science of casuistry, when men, in the 16th and 17th c., began to reduce morals to a system. It formed a leading subject of the controversy between the Jesuits and the Jansenists, but it is a great, though common, mistake to suppose that all the Jesuits were probabilists, and that all the Jansenists were opposed thereto. Very few Jesuits, indeed, were of the school chiefly assailed in the *Provincial Letters* (see PASCAL), that of Probabilism Simple. Without entering into the history of this curious controversy, it will be enough to say that the Roman Church, while condemning the two extremes—the extreme of anti-probabilism, which excludes all use even of the most probable opinions, and the lax extreme of simple P., which accepts even the slightest probability as sufficient—has left the intermediate opinions for free discussion. The great modern master on the subject is St. Alfonzo de Liguori, whose system may be described as a kind of practical probabiliorism, in which, by the use of what are called reflex principles, an opinion which *objectively* is but probable, is made *subjectively* the basis of a certain and safe practical judgment. The system of P. has doubtless been pushed by individual divines to scandalous extremes; but it is only just to add that these extremes have been condemned by authority in the Roman Church; and that, on the other hand, the principles of the higher Roman schools of P. are asserted to be substantially the same as those of all moralists, whether of the old or of the new schools of ethics.

Protestants, however, and with them some Rom. Catholics, reprobate P. in all its *schools* or forms, as a mere scheme for delusion of conscience and excuse or justification of immorality. They maintain that the Scriptural or Christian rule, and the only rule of true morality, is that no man is entitled on any account to do that of which he doubts whether it is contrary to the law of God. Every man must often choose between two courses, as to which is the most expedient; but this they hold to be a totally different thing. It is urged also against the probabilists, that they make the authority of *doctors*, or learned theologians, sufficient justification for a man's doing that which otherwise he would deem it unlawful to do; asserting that it will keep him safe at the judgment-seat of God.

PROBABIL'ITY, MATHEMATICAL THEORY OF: application of mathematical science for calculating the credence due to propositions or statements—especially as to the occurrence of events future or past, and as contingent on other propositions or events whose probability is known. Of all mathematical theories which can be made in any sense popular, this is perhaps the least generally understood. Of the several reasons for this fact, three are here noted. *First.*—As by far the simplest and most direct elementary illustrations of its principles are furnished by games of chance, these have been almost invariably used by writers on the subject; and the result has been a popular delusion, to the effect that the theory tends directly to encourage gambling. Nothing can be more fallacious. Independent of moral considerations, with which the present discussion is not concerned, no arguments against gambling can be furnished comparable in power with those deduced from the mathematical analysis of the chances of the game. *Second.*—In many problems, some of them among the easiest in the theory, the very highest resources of mathematics are taxed to furnish a solution. One reason for this is very simple: the solution, however elementary, involving often nothing but the common rules of arithmetic, sometimes lead to results depending on enormous numbers, and very refined analysis is requisite to deduce *easily* from these what would otherwise involve calculations, simple enough in character, but of appalling labor. Higher mathematics here perform, in fact, something analogous to *skilled labor* in ordinary manufactures. The simplest illustration of this is in the use of LOGARITHMS (q.v.), which reduce multiplication, division, and extraction of roots to mere addition, subtraction, and division, respectively. Powerful as logarithms are, analysis furnishes instruments almost infinitely more powerful. The large numbers which occur in probabilities are usually in the form of *products*, and the above remarks may be exemplified as follows.

To find the value of the product 1 . 3 . 5 . 7, no one would think of using anything but common arithmetic; but, if he were required to find the value of 1.3.5.7.9 ... .49, he would probably have recourse to logarithms, *merely to avoid useless labor of an elementary kind.* But in very simple questions in P., it may be requisite to find (approximately) the value of a product such as 1.3.5.7.9 ....23999; i.e., that of the first 12,000 odd numbers. No one would attempt this by ordinary arithmetic; but it is the mere labor, not the inherent difficulty, which prevents him. Few would even attempt it by means of logarithms; for, even with their aid, the labor would be very great. It is here that the higher analysis steps in, and helps us *easily* to a sufficiently accurate approximation to the value of this enormous number. Thus, it appears that this objection to the study of the theory of P. is applicable not to their principles, which are very elementary, but to the mere mechanical details of the processes of solution of certain problems. *Third.*—There are other objections, such as the (so-called) religious one, that 'there is no such thing as chance,' and that 'to calculate chances is to deny the existence of an all-ruling Providence,' etc.; which, like many similar assertions, are founded on total ignorance of the nature of the science; therefore, though pernicious, may be safely treated with merited contempt. The authors of such objections remind us of the Irishman who attempted to smash Lord Rosse's great telescope, because 'it is irreligious to pry into the mysteries of nature.'

The best method of explaining the principles of the subject within necessarily narrow limits will probably be to introduce definitions, etc., as called for, in the course of a few elementary illustrations, instead of elaborately premising them.

First Case.—The simplest possible illustrations are supplied by the common process of 'tossing' a coin, with the result of 'head' or 'tail.' Put H for head, and T for tail. Now, the result of one toss, unless the coin should fall on its edge (practically impossible), *must* be either

H or T.

Also, if the coin be not so fashioned as to be more likely to fall on one side than the other (e.g., as with loaded dice), *these events are equally likely;* or, in technical language, *equally probable.* To determine numerically the likelihood or the probability of either, we must assign some numerical value to *absolute certainty.* This value is usually taken as *unity,* so that a probability, if short of absolute certainty, is always represented by a proper fraction. Suppose that p (a proper fraction) represents the probability of H, then evidently p is also the probability of T, because the two events are equally likely. But one or other *must* happen; hence, the sum of the separate probabilities must represent certainty. That is,

$$p + p = 1, \text{ or } p = \frac{1}{2}.$$

Thus we have assigned a numerical value to the probability of either H or T, by finding what proportion each bears to certainty, and assigning to the latter a simple numerical value.

Suppose, as a contrast, the coin to be an unfair one, such as those sometimes made for swindling purposes, with H on each side. Then we *must* have in one toss

H or H;

i.e., H is *certain,* or its probability is 1. There is no possibility of T, and therefore its probability is 0. Absolute impossibility is therefore represented by the numerical value of the probability becoming zero.

Second Case.—Suppose a 'fair' coin to be tossed twice in succession. The event *must* be one of the four—

H, H; H, T; T, H; or T, T.

Now all four are evidently equally likely; i.e., their probabilities are equal. But one of them *must* happen—

hence the sum of their probabilities amounts to certainty, or 1. That is, each of the four cases has a probability measured by the fraction $\frac{1}{4}$.

Here we may introduce a new term. What are the *odds* against H, H? The answer is, the chance or probability of H, H is $\frac{1}{4}$, that is, *one* case in *four* is favorable, hence *three* are unfavorable, and the odds are said to be 3 to 1 against the event. *In general the odds against any event is in the ratio of the probability that it will not, to the probability that it will, happen.*

Thus, in the first case above, the odds against H in one toss are even.

Third Case.—What is the chance of throwing both head and tail in two tosses of a coin? Note that this *not* the same question as, 'What is the chance of head followed by tail, in two tosses?' The latter question was answered in the *Second Case,* for the chance of H, T was there shown to be $\frac{1}{4}$. The present event contemplates *either* H, T, or T, H—and its probability is therefore $\frac{1}{4} + \frac{1}{4}$, or $\frac{1}{2}$, since each has the separate probability $\frac{1}{4}$. Or we may reason thus: Of the four possible cases of two tosses of a coin, *two* give both head and tail—*all four* are equally probable—hence the probability is 2 in 4, or 1 in 2 i.e., $\frac{1}{2}$.

Fourth Case.—What is the chance of throwing H in two tosses? Note that this is *not* the same question as, 'What is the chance of H *once only* in two tosses?' The latter question is that of the Third Case merely put in a different form. Nor will it do to answer our question thus:

$$\text{Chance of H in first throw} = \frac{1}{2}.$$

$$\text{Chance of H in second throw} = \frac{1}{2}.$$

$$\text{Therefore chance of H in two throws} = \frac{1}{2} + \frac{1}{2} = 1.$$

For by this reasoning it would appear that we *must* get head once at least in two throws; which is obviously absurd, for we may have T, T.

This very elementary example shows how delicate the reasoning in this subject is, and how liable one is to make (complacently) the most preposterous mistakes.

The error of the above process is introduced by the fact, that we have not considered that *if H be obtained in the* *first throw, our object is attained, and no second throw is required.* The correct work is this—

$$\text{Chance of H in first throw} = \frac{1}{2}.$$

If H come, the game is finished.

$$\left.\begin{array}{ll} \text{Chance of T in the first throw, in which} & \\ \quad\text{case we must throw again,} & = \dfrac{1}{2} \\ \text{Subsequent chance of H in second throw} & = \dfrac{1}{2} \end{array}\right\}.$$

Combining these, we have—

$$\begin{array}{ll} \text{Chance of H at second throw } \textit{only} & = \dfrac{1}{2} \times \dfrac{1}{2} = \dfrac{1}{4}. \\ \text{Add chance of H at first throw} & = \dfrac{1}{2}. \\ \text{Sum, or chance of H in two throws} & = \dfrac{3}{4}. \end{array}$$

A simpler method is this. The possible throws, all equally likely, are, as before—

H, H; H, T; T, H; and T, T.

The first three of these satisfy the requirements of the question; i.e., the required event has 3 chances in 4 in its favor, or its probability is $\frac{3}{4}$.

Fifth Case.—The chance of H in any one throw is $\frac{1}{2}$ (by *First Case*). The chance of H, H is $\frac{1}{4}$ (*Second Case*). Now $\frac{1}{4} = \frac{1}{2} \times \frac{1}{2}$; i.e. the chance of *the joint occurrence of two independent events*, at least in this simple case, *is the product of their separate probabilities.* Contrast this with the principle, already several times employed, that *the probability of an event which may arise from one of a number of causes* (*no two of which can coexist*), *is the sum of the separate probabilities.* Simple proofs of these statements, in all their generality, will now be given, with various other important propositions.

(A.) If an event may occur in p ways, and fail in q ways —all being equally likely—the probability of its happening in one trial is $\frac{p}{p+q}$, and of its failing, $\frac{q}{p+q}$—and the odds in its favor are $p : q$.

The simplest way of conceiving this, and many other hypothetical cases, is to suppose *one* ball to be drawn from a bag which contains a number of balls, differing from each other in color, or in some other quality not distinguishable by the touch. Suppose the bag to contain p white balls (W), and q black ones (B), and *one* ball to be drawn; what is the chance of its being white?

Here there are p chances in favor of a white ball being drawn, and q chances against it—these being *all equally* *likely*, or having *equal probabilities*—the chance of **W** is therefore p in $p + q$; i.e., is expressed by the fraction,

$$\frac{p}{p+q}.$$

The chance against W is q in $p + q$, or

$$\frac{q}{p+q}.$$

And the sum of these fractions is 1, or certainty, as it ought to be—for the ball drawn *must* be either W, or not W.

(B.) If an event may occur in p ways, and fail in q ways, all being equally likely—what are the chances of (a) its happening twice, (b) its happening the first, and failing the second, (c) its failing the first time, and happening the second, and (d) its failing twice, in two trials?

Taking the illustration in (A) above, we see that there are p independent ways of succeeding in the first case, and p in the second; hence, there are $p \times p$, or p^2 independent ways of *succeeding* twice. For any one of the first p may occur with any one of the second. But the whole possible number of ways of experimenting twice is $(p + q)(p + q)$, or $(p + q)^2$; hence, the

Chance of (a) i.e., succeeding twice, is $\frac{p^2}{(p+q)^2}$.

Similarly, chance of (b) is $\frac{pq}{(p+q)^2}$.

" " " (c) is $\frac{qp}{(p+q)^2}$.

" " " (d) is $\frac{q^2}{(p+q)^2}$.

The sum of these is $\frac{p^2 + 2pq + q^2}{(p+q)^2} = 1$, as it ought.

(C.) An attentive consideration of (B) shows us that when we have the independent probabilities of two events, the probability that they will jointly occur is the *product* of their separate probabilities.

Thus, for W, in first trial, chance is $\frac{p}{p+q}$.

" " second " " " $\frac{p}{p+q}$.

Whose product is $\frac{p^2}{(p+q)^2}$; the probability of W in each of two successive trials.

Again, for W, in the first trial, chance is $\frac{p}{p+q}$.

" B " second " $\frac{q}{p+q}$.

Whose product is $\frac{pq}{(p+q)^2}$, which is found above to be the chance of WB. And so on.

(D.) This may be generalized as follows—the process will be evident to all who understand the elementary algebra employed:

$$\text{Certainty} = 1 = \frac{(p+q)^n}{(p+q)^n} =$$

$$\frac{p^n + np^{n-1}q + \frac{n\cdot\overline{n-1}}{1\cdot 2}p^{n-2}q^2 + \ldots. + q^n}{(p+q)^n}$$

by the Binomial (q.v.) Theorem of Newton. Now the *parts* of this expression—i.e.,

$$\frac{p^n}{(p+q)^n}, \frac{np^{n-1}q}{(p+q)^n}, \ldots., \frac{q^n}{(p+q)^n}$$

represent, obviously, the chances of W n times, W $n-1$ times and B once, W $\overline{n-2}$ times and B twice, ... , B n times, in n trials, where the *order* of occurrence is not considered.

If the *order* be considered, the chance of any arrangement, such as WBWWBBBW, for instance, is evidently

$$\frac{p\cdot q\cdot p\cdot p\cdot q\cdot q\cdot q\cdot p}{(p+q)^8} = \frac{p^4q^4}{(p+q)^8}.$$

But the chance of 4W and 4B in 8 trials, *without respect to order*, is as above, the term containing p^4q^4 in the expansion of $(p+q)^8$, divided by $(p+q)^8$—i.e.,

$$\frac{70p^4q^4}{(p+q)^8}.$$

To take a simple example: if there be 2W and 1B in a bag, and each ball be replaced immediately after drawing, the chance of W 4 times in succession is $\frac{2^4}{3^4} = \frac{16}{81}$.

Of the particular combination WBWB, the chance is $\frac{2}{3}\cdot\frac{1}{3}\cdot\frac{2}{3}\cdot\frac{1}{3} = \frac{4}{81}$.

But the chance of W twice and B twice, *without respect to order*, is $6\,\frac{2^2\cdot 1^2}{3^4} = \frac{24}{81}$; the numerator of the fraction being the term of $(2+1)^4$ which contains the product $2^2\cdot 1^2$.

(E.) From the preceding results it is obvious that *the probability of the joint occurrence of any set of independent events is the product of their separate probabilities.*

(F.) We may vary the process by supposing that there are *several* bags, each containing some balls, which may be white or black; but the number in each bag, and the proportion of white to black, being any whatever. *One* ball only is to be drawn, what is the chance that it is W ?

If n be the number of bags, the chance that the ball will be drawn from any particular bag is $\frac{1}{n}$ [see (A)]. And if in that bag there be p of W and q of B, the chance that W will be drawn from it is $\frac{p}{p+q}$ [see (A)].

Hence the chance that W is drawn, and from the particular bag, is,

$$\frac{1}{n} \cdot \frac{p}{p+q} \text{ by (E).}$$

And the whole chance that W is drawn is the sum of all the chances, $\frac{1}{n} \cdot \frac{p}{p+q}$, for each of the bags.

Thus, let there be 5 bags, containing, respectively, WB, WW, BB, WWB, WWW; our chance is found as follows: The chance of the ball being drawn from any particular bag is $\frac{1}{5}$, since all are equally likely to be chosen. Then, supposing the first chosen, the chance of W is $\frac{1}{2}$; if the third be chosen, the chance of W is 0, etc. Hence, on the whole, the chance of W is

$$\frac{1}{5} \cdot \frac{1}{2} + \frac{1}{5} \cdot 1 + \frac{1}{5} \cdot 0 + \frac{1}{5} \cdot \frac{2}{3} + \frac{1}{5} \cdot 1 = \frac{19}{30}.$$

(G.) Hence, *if an event may happen in consequence of any one of a set of causes, such that the action of one excludes that of the others; its probability is the sum of the products formed by multiplying the chance of the action of each cause by the chance that that cause, if operating, will produce the desired event.*

We might easily extend this simple series of results, but our limits restrict us to an attempt to show more the *extent* of the subject than the details of its application to any particular set of questions. We therefore pass to the consideration of an *inverse* problem or two.

(H.) An event has occurred, which may have arisen from any one of a set of mutually exclusive causes: to determine the probability that any particular cause was the efficient one—the probability of the events happening, when any particular one of the causes operates, being known.

As a simple example will show us how to proceed in the most general case, take the 5 bags of (F) above. The chances of drawing W from them are, in order, $\frac{1}{2}$, 1, 0, $\frac{2}{3}$, 1. Suppose W *has* been drawn, what is the chance that it was drawn from any particular bag? It is obvious that the chance of W having been drawn from any particular bag is proportional to the chance that, if that bag had been selected, W would have been drawn from it. Hence, if p_1, p_2, p_3, p_4, p_5 be the chances that the several bags furnished the W actually drawn, we have

$$p_1 : p_2 : p_3 : p_4 : p_5 :: \frac{1}{2} : 1 : 0 : \frac{2}{3} : 1,$$

with the additional condition, that the ball *must* have been drawn from one of the bags, and therefore

$$p_1 + p_2 + p_3 + p_4 + p_5 = 1.$$

From these, by elementary algebra, we have

$$p_1 = \frac{3}{19}, p_2 = \frac{6}{19}, p_3 = 0, p_4 = \frac{4}{19}, p_5 = \frac{6}{19}.$$

And a very simple application of algebra will easily conduct us to the general formula for any such case.

(I.) If the nature of a cause is known only by its results, we have an interesting case of simultaneous application of the direct and inverse methods.

Thus, a bag contains 3 balls, each of which may be either black or white. A ball has been drawn from it on two occasions—replacing before drawing—and on each of these occasions the ball was W. What is the chance that a third drawing will give a *black* ball?

The contents of the bag are obviously one of the following—viz., W, W, W; W, W, B; or W, B, B—since it contains *one* W at least. Now, if WWW be the contents, the probability of the observed event (two W in succession) is $1 \times 1 = 1$.

$$\text{If W,W,B,} \quad \frac{2}{3} \times \frac{2}{3} = \frac{4}{9}.$$

$$\text{If W,B,B,} \quad \frac{1}{3} \times \frac{1}{3} = \frac{1}{9}.$$

Hence the probabilities that these are, respectively, the contents of the bag are as $1 : \frac{4}{9} : \frac{1}{9}$, or as $9 : 4 : 1$; and are therefore $\frac{9}{14}$, $\frac{4}{14}$, and $\frac{1}{14}$ respectively, since their sum must be 1 or certainty.

Now for the chance of B in the third drawing; if WWW be the contents $\left(\text{of which the chance is } \frac{9}{14}\right)$, the chance of B is 0. Hence we have one part of the chance for B, viz., $\frac{9}{14} \times 0 = 0$. Similarly, the other parts are $\frac{4}{14} \times \frac{1}{3} = \frac{4}{42}$, and $\frac{1}{14} \times \frac{2}{3} = \frac{2}{42}$. The whole chance of B in the third drawing is therefore

$$0 + \frac{4}{42} + \frac{2}{42} = \frac{1}{7}.$$

As exercises on the above principles, we take first a few simple questions from Life Assurance, the subject to which, above all others, the elementary theory of Probability has been of most indispensable service. We purposely choose the simplest that the subject can furnish, but they are sufficient to show the great value of the theory.

A Table of Mortality (q.v.) gives the numbers alive at each successive year of their age, out of a given number of children born. If A_n and A_{n+1} be the numbers in the table corresponding to the n^{th} and $\overline{n+1}^{\text{th}}$ years of age; the inference from the table is, that, of A_n individuals now alive, and of n years of age, A_{n+1} will live one additional year at least. Hence, the chance that any one of them die during the year is

$$\frac{A_n - A_{n+1}}{A_n}.$$

Call this $1 - p$, then p is the chance that any one of them will survive the year.

Questions. Of two individuals, one n years old, and the other n_1, what are the chances that

(*a.*) Only one lives a year?
(*b.*) One, at least, lives a year?
(*c.*) Both do not live a year?

Calling the individuals A and B, the chance of A living out the year is p, and the chance of his dying within the year is $1 - p$. For B these are p_1 and $1 - p_1$. Hence

(*a.*) A lives and B dies—chance $p(1 - p_1)$.
B lives and A dies—chance $(1 - p)p_1$.

Hence answer to (*a*) is . . $p + p_1 - 2pp_1$.

(*b.*) This includes, in addition to the conditions of (*a*), the chance that *both* survive, which is pp_1.
Hence answer to (*b*) is $p + p_1 - pp_1$.

(*c.*) In this case the chance that both *do* live a year is pp_1. Hence chance of (*c*) is $1 - pp_1$.

As another instructive example, let us take the question, 'In how many throws of a die is it even betting that an ace will be thrown?'

This may, of course, be worked directly, proceeding in the following manner:

$$\text{Chance of ace in first throw} = \frac{1}{6}.$$

Then, remembering that there is no second throw unless the first fails,

$$\text{Chance of ace in second throw} = \frac{5}{6} \cdot \frac{1}{6}; \text{ and so on.}$$

Hence the odds against ace in 1 throw are 5: 1.
" " " 2 throws 25 : 11; and so on. But great care is requisite in this mode of working the problem.

The simplest procedure is this:

Chance *against* ace in 1 throw $\frac{5}{6}$.
" " " 2 throws $\frac{25}{36}$.
" " " 3 " $\frac{125}{216}$.
" " " 4 " $\frac{625}{1296}$.

Hence odds against ace in 1 throw 5 : 1.
" " " 2 throws 25 : 11.
" " " 3 " 125 : 91.
" " " 4 " 625 : 671.

That is, the odds are considerably *against* ace occurring in three throws, being about 11 to 8; while in four they are slightly in its favor, as 29 : 27 nearly. One is sure, therefore, of winning in the long run, if he can get any one to give him repeatedly an even bet against ace appearing in four throws of a die.

It is to be observed that when we say '*in the long run,*' we mean that the most likely event may not be that which will happen in the first trial, nor perhaps for many trials (because, unless its probability is 1 or certainty, it is, of course, *possible* that it may never occur). But what is certain is this, that if a sufficient number of trials be made, we can have any amount of probability (short of certainty) that the ratio of the number of successful trials to the number of failures, will be in the ratio expressed by the odds in favor of success in any one trial.

And this introduces us to another department of the theory of Probabilities, called *Expectation.* We begin with a simple case, not involving what is called *Moral Expectation*, to which the next example will be devoted.

Suppose A, B, and C have made a pool, each subscribing $1, and that a game of *pure chance* (i.e., not dependent on skill) is to be played by them for the $3. What is (previous to play) the value of the expectation of each? By the conditions, all are equally likely to win the pool, hence its contingent value must be the same to each; and, obviously, the sum of these values must represent the whole amount in question. The worth of the expectation of each is therefore $1. That is, if A wishes to retire from the game before it is played out, the fair price which B or C ought to pay him for his share is simply $1. But this is obviously $\frac{1}{3} \times \$3$, i.e., the value of the pool multiplied by his chance of getting it. Here we have taken an extremely simple case, because we have not room for the general proof (though it is closely analogous to that just given) that

The value of a contingent gain is the product of the sum to be gained into the chance of winning it.

So far, it has been assumed that the payment of his stake (which may be wholly lost) has not *morally* affected the position of any of the players; i.e., that the stake is a sum whose loss would in nowise embarrass him. And it is only with such cases that the strict mathematical theory can deal; for we cannot estimate with mathematical accuracy the value of the stake as depending on the fortune (the *possessions*, not the *luck*) of the player. The attempts which have been made to supply this apparent deficiency in the theory have, of course, not been generally accepted. Still there is no doubt that two men of very unequal fortunes are placed in very different circumstances when they have subscribed equal sums to a pool which they have equal chances of gaining. The most commonly received method of *approximating* to a solution of such a question (for it is obvious that here we have left mathematical certainty behind) is that proposed by Daniel Bernoulli; which is, that the value of a small gain, or the inconvenience of a small loss, is directly proportional to the amount of the gain or loss (which is probably correct), and inversely proportional to the fortune of the person affected (which may be nearly true, except in extreme cases). The application of this hypothetical principle necessitates, in general, the use of the integral calculus ; but, to show the *mathematical folly* of gambling, we quote one of Bernoulli's results.

A, whose whole fortune is $100, bets $50 even with B on an event of which the chance is $\frac{1}{2}$. What is the moral value of A's fortune after making the bet (and before it is decided)? By applying the above method, he finds it to be $87. Thus A, by making the bet, has depreciated by 13 per cent. the value of his property. This is an extreme case, indeed; and the method employed in obtaining the result is questionable; still, it is certain that no legitimate method could show that A had otherwise than impaired his fortune by entering on any such transaction. This, of course, is on the supposition that the bet is a *fair* one; if A be a swindler, and get from B more than the proper odds against the event, he may, of course, improve to any extent the value of his fortune. But such would be a question of flats and sharpers, not a question of probability.

A very excellent example of *moral* as distinguished from *mathematical* probability is furnished by the famous 'St. Petersburg Problem.'

A and B play at heads and tails. A is to pay B $2 if H comes at the first throw, $4 if at the second and not before, $8 if at the third and not before; and so on, doubling each time. What should B pay (before the game) for his expectation?

Applying the mathematical method, we see that

$$\text{Chance of H at first throw} = \frac{1}{2};$$

in which case B gets $2, of which the contingent value is $\frac{1}{2} \times \$2 = \$1$.

$$\text{Chance of H at second throw, and } \textit{not} \text{ before} = \frac{1}{4};$$

when B is to get $4, whose value is therefore $\frac{1}{4} \times \$4 = \$1$.

$$\text{Chance of H at third throw, and not before} = \frac{1}{8};$$

contingent value of B's $8 is therefore $\frac{1}{8} \times \$8 = \$1$. And so on, forever.

Hence B's expectation (mathematical) is $\$1 + \$1 + \$1 +$ etc. for ever, or an infinite sum. Now it is obvious that no man, in his senses, would pay even a moderately large sum for such a chance. Here the *moral* expectation comes into play; but the mathematical solution is perfectly correct, if we interpret it properly. *It does not attempt to tell what will be the actual result in any one game—this is pure chance*—but it tells us what will be the average to which the results of larger and larger numbers of games *must* continually tend. In other words, if B had an inexhaustible purse, he might safely pay *any* amount to A before each game, *and be sure of winning in the long run*, after an indefinitely great number of games were played. But this, though theoretically exact, is not applicable to mundane gambling—where limited purses and limited time circumscribe the field requisite for proper development of the mathematical result.

Before quitting this part of the subject, we may give a couple of instances in which the mathematical theory may be easily tested by any one who has a little leisure. One of these we will develop at length, as a final instance of the simple calculations generally involved.

'To find the chance of throwing any given possible number with two dice.'

As the faces of the dice are numbered from 1 to 6—the smallest throw is 2, and the greatest 12.

In one throw, the chances are—

$$\text{For } 2 = 1 + 1;\ \frac{1}{6}\cdot\frac{1}{6} = \frac{1}{36};$$

the probabilities being *multiplied* (E) because the events are independent. For

$$3 = 1 + 2, \text{ or } 2 + 1;\ \frac{2}{36}:$$

$$4 = 1 + 3,\ 2 + 2, \text{ or } 3 + 1;\ \frac{3}{36}:$$

$$5 = 1 + 4,\ 2 + 3,\ 3 + 2, \text{ or } 4 + 1;\ \frac{4}{36}:$$

$$6 = 1 + 5,\ 2 + 4,\ 3 + 3,\ 4 + 2, \text{ or } 5 + 1;\ \frac{5}{36}:$$

$$7 = 1 + 6,\ 2 + 5,\ 3 + 4,\ 4 + 3,\ 5 + 2, \text{ or } 6 + 1;\ \frac{6}{36}:$$

Then, in the inverse order—

$$8 = 2 + 6,\ 3 + 5,\ 4 + 4,\ 5 + 3, \text{ or } 6 + 2;\ \frac{5}{36}:$$

and so on—the fact being that if we read the *lower* sides of the dice when the throw is 8, they will give 6, and so on—the sum being always 14.

The mathematical expectation for any one throw is therefore

$$\frac{1}{36}\cdot 2 + \frac{2}{36}\cdot 3 + \frac{3}{36}\cdot 4 + \frac{4}{36}\cdot 5 + \frac{5}{36}\cdot 6 + \frac{6}{36}\cdot 7 + \frac{5}{36}\cdot 8 + \frac{4}{36}\cdot 9 + \frac{3}{36}\cdot 10 + \frac{2}{36}\cdot 11 + \frac{1}{36}\cdot 12.$$

In all—

$$\frac{1}{36}(2 + 6 + 12 + 20 + 30 + 42 + 40 + 36 + 30 + 22 + 12);$$

$$\text{or } \frac{1}{36}\cdot 252 = 7.$$

The meaning of this is, *not* that we shall probably throw seven the first time, nor the second, nor perhaps for many throws; but that if we throw a number of times, add the results, and divide by the number of throws, the final result will be more and more nearly equal to seven, the greater be the whole number of throws. It is very instructive to make the experiment, say on 100 throws of two dice, as in backgammon. If the mathematical result be not closely verified by such a trial, *the dice are loaded;* or, at least, are ill-made.

Another illustration, and an excellent one, is furnished by the following theorem.

If the floor be ruled with equidistant parallel lines, and a straight rod, whose length is equal to the distance between any two contiguous lines, be dropped upon it at random, the chance of its falling on one of the lines is $\frac{2}{\pi}$, where π is the ratio of the circumference of a circle to its diameter (see QUADRATURE OF THE CIRCLE). The deduction of this result from the theory of Probabilities requires the use of the integral calculus, and cannot be given here; but the above theorem may be put to the test of practice in the following way. Let the rod be tossed a number of times, then the greater this number, the more nearly shall we have

$$\frac{\text{Twice number of throws}}{\text{Number of times the rod falls on a line}} = \pi = 3{\cdot}14159, \text{ etc.};$$

therefore, by simply continuing this process long enough, we may obtain as accurate a value as we choose of the ratio of the circumference to the diameter of a circle.

To show how the theory of Probabilities would tend, if generally known, to discouragement of gambling, would require a treatise—as every species of game would have to be treated: we therefore take only one case, about as bad a one as can be. This is when a man makes a 'book' on a horse-race, so as to 'stand to win,' whatever be the result of the race. This is, of course, immoral; for, as it can make no matter who accepts his bets, suppose them all taken by one individual. The latter must therefore have been led into a complex transaction by which he is *certain to lose.* The method of making such a 'book' is simple enough; it consists mainly in betting *against* each horse. Thus, if three horses, A, B, C, are to start, and he can get the following bets taken—

$4 : $3 against A,
$5 : $4 " B,
$6 : $5 " C;

his book stands thus:

If A win, he wins $4 + $5 − $4 or $5.
" B " " $5 + $3 − $5 " $3.
" C " " $4 + $3 − $6 " $1.

Now, to examine this case, suppose the *correct* odds to have been laid against A and B, what ought in fairness to be the odds as regards C?

Chance of A winning is . . $\frac{3}{7}$.

" B " . . $\frac{4}{9}$.

Chance of A or B winning $= \frac{3}{7} + \frac{4}{9} = \frac{55}{63}$.

Hence, chance of C winning $= \frac{8}{63}$; and therefore the legitimate odds against C are 55 to 8, whereas our betting-man has got a *fool* to accept 6 to 5.

The cause of the detestation which attaches to gambling, is not only the ruin, insanity, suicide, etc., in which it frequently ends, but also the fact that a gambler's work in no case increases the wealth or comfort of the state; all it can effect is a more or less rapid and dishonest transfer of these from one state of distribution to another.

There is a common prejudice as to '*runs of luck*,' which are popularly supposed *not* compatible with the mathematical theory. This is a complete delusion. To take a very simple case, the reader will easily see that, if he writes down all the possible cases which may occur in six tosses of a coin, the odds are 19 : 13 in favor of a run of three at least.

To give an instance of the principle of interpretation several times above applied to the mathematical result—viz., that the greater the number of trials, the more nearly will the average result of these trials coincide with it—let us recur to heads and tails. Suppose a coin tossed 10 times, and let H^n stand for H n times, then we have

$$1 = \left(\frac{1}{2} + \frac{1}{2}\right)^{10}$$

$$= \frac{1}{2^{10}}\left(1 + 10 + \frac{10\,.\,9}{1\,.\,2} + \frac{10\,.\,9\,.\,8}{1\,.\,2\,.\,3} +, \text{etc.}\right)$$

of which the terms are [as in (D)] the probabilities of H^{10}, H^9T, H^8T^2, etc., respectively; the order not being taken account of. The largest term is the 6th, and its value is $\frac{252}{2^{10}} = \frac{252}{1024}$, or about $\frac{1}{4}$. This is the chance of H^5T^5, without regard to order, in 10 throws. Although the most probable result, inasmuch as the chances of H^6T^4 and H^4T^6 are each about $\frac{1}{5}$ only, and those of the other possible combinations much smaller—yet it has not a very large chance. But the chance of a result *not deviating much from the most probable one*, is very much larger: in the above case, the chance of having not less than 3H, and not less than 3T, is as much as $\frac{912}{1024}$. But this tendency of the bulk of the results to coincide very closely with the most probable one, is much more evident as we take a greater and greater number of trials. Thus, in 100 trials with the coin, we have—

$$1 = \left(\frac{1}{2} + \frac{1}{2}\right)^{100}$$

$$= \frac{1}{2^{100}}\left(1 + 100 + \ldots + \frac{100\,.\,99\,.\,98\ldots51}{1\,.\,2\,.\,3\ldots50} +, \text{etc.}\right)$$

[*Now* we begin to see how the higher analysis comes in. Who is to work out by common arithmetic the value of the fraction $\frac{100\,.\,99\,.\,98\ldots\ldots51}{1\,.\,2\,.\,3\ldots\ldots50}$? Some calculating boy *might*, with no enormous labor—but, wait a moment, we may wish to have the result of a million of trials, and what calculator (arithmetical) will tell us the value of

$$\frac{1{,}000{,}000 \times 999{,}999 \times \ldots\ldots \times 500{,}001}{1 \times 2 \times \ldots\ldots\ldots\ldots \times 500{,}000}?]$$

In this case, the most probable result is $H^{50}T^{50}$, without regard to order, but its chance is only about $\frac{2}{25}$. [The exact value is $\frac{1}{2^{100}} \cdot \frac{100\,.\,99\,.\,98\ldots\ldots51}{1\,.\,2\,.\,3\ldots\ldots50}$]. Had there been 1000 throws, the chance of $H^{500}T^{500}$ (the most likely combination) would have been about $\frac{1}{38}$. But, as the number of throws increases, the number of terms grouped close to the largest in the expansion, and whose sum far exceeds that of all the rest, becomes a smaller and smaller fraction of the entire number of terms. Hence the chance that in 1000 tosses there should be not more than 600 nor less than 400 H, is much greater than that of not more than 60 nor less than 40 H in 100 throws; and so on.

Thus it is that all our statistical results, say the ratios of the numbers of births, marriages, suicides, etc., to the whole population—or that of the male to the female births—or that of the dead letters to the whole number posted, etc.—though perhaps never the same in any two years, yet fluctuate between very narrow limits. And thus it is that the theory of Probabilities has been the means of solidly establishing, beyond almost the possibility of failure, when properly applied, the inestimable securities afforded by life-insurance.

Another very important application of the theory is to the deduction of *the most probable* value from a number of observations (astronomical, meteorological, etc.), each of which is liable to error. We may confidently assert that, but for this, astronomy could not have taken the gigantic strides by which it has advanced during the 19th c. But the '*Method of Least Squares*,' as it is called, furnished for this purpose by the theory of Probabilities, is far beyond the scope of elementary mathematics, and can therefore only be referred to here. Its fundamental features may be seen in the above process of determining the probability that the result of a number of trials shall lie within certain limits on each side of the most probable result.

The theory of Probabilities has been applied to many other important questions, of which we mention only two —the value of evidence, and the probability of the correctness of the verdict given by various majorities in a jury. But for these, and for further development of what is given above from the simplest points of view, see the various treatises on the subject. Of these, the most accessible to an English reader are the valuable works of Galloway and De Morgan. Poisson, Gauss, and especially Laplace, also have treated the subject in the most profound manner. But the difficulty of understanding Laplace's great work is such that few have ever mastered it completely; it is therefore particularly satisfactory that the late Prof. Boole, in *Laws of Thought*, has shown how to dispense with a great part of the analysis which renders Laplace's work so formidable.

PROBABLE, a. *prŏb'ă-bl* [F. *probable*—from L. *proba'bĭlis*, probable—from *probo*, I try or test: It. *probabile*]: having the appearance of truth; likely; credible. **PROB'ABLY**, ad. *-blĭ*. **PROB'ABIL'ITY**, n. *-bĭl'ĭ-tĭ* [F. *probabilité:* L. *probabilitas*]: appearance of truth; anything having the appearance of reality or truth; less than moral certainty: PLU. the doctrine of chances (see PROBABILITY, MATHEMATICAL THEORY OF). **PROB'ABILISM**, n. *-ĭzm* (see above). **PROB'ABILIST**, n. *-bĭl-ĭst*, one holding the doctrine of Probabilism.—SYN. of 'probability': chance; likelihood; likeliness; verisimilitude; credibleness; hazard.

PROBANG, n. *prō'băng* [from *probe*]: in *surg.*, a small rod of whalebone with a piece of sponge at the end, used for removing obstructions in the throat.

PROBATE, n. *prō'bāt* [L. *probātus*, proved, tested—from *probo*, I prove]: the exhibition and proof of wills before the proper judge; the official copy of a will, with the certificate of its having been proved: ADJ. of or belonging to a court of probate. **PROBATE COURT**, court presided over by one judge who decides on the authenticity of wills, and their administration, etc. Probate courts in the United States are limited by, and derive all their power from, the different state statutes creating them. These statutes, while differing slightly in details in various states, in the main have created a somewhat uniform system both as to subjects of jurisdiction and as to procedure throughout the country. Probate courts are variously known as courts of Probate, Orphans' courts, Ordinaries or courts of Ordinary, Surrogate's courts, Prerogative courts, and Register's courts. Together these different courts are usually spoken of as courts of probate jurisdiction. Generally they are courts of record, that is, having a public seal, a clerk, an organized process, and executive officers. The presiding officer is as a rule called a surrogate or judge. The principal subjects of jurisdiction are wills, administration of the estates of persons dying intestate, appointment of executors, guardians, and trustees. The procedure is less technical than in the ordinary courts of record, and may be traced for its origin to the civil and canon law, greatly modified, however, by the English common law, and the varying circumstances and needs of the American people. The proceedings in probate courts are usually set in motion by the filing of a written affidavit or petition, whereupon a citation or monition to the parties interested issues, requiring them to appear for the court on a day named therein. Speedy and simple procedure is provided in all the states for enforcement of creditors' claims and demands of legatees, and for securing accountings from administrators, executors, guardians, and trustees.

PROBATION, n. *prō-bā'shŭn* [F. *probation*—from L. *probātio* or *probātiōnem*, a trying, a proving—from *probo*, I try]: act of proving; trial for proof, or time of trial; any process intended to elicit truth; the trial of man in the present life, by the result of which his future state will be decided; moral trial. PROBA'TIONAL, a. *-ăl*, or PROBA'TIONARY, a. *-ėr-ĭ*, serving for trial. PROBA'TIONER, n. *-ėr*, one who is on trial; in *Scot.*, a licentiate—i.e., a student licensed to preach the gospel, but not ordained or inducted to a particular church or parish. PROBATIVE, a. *prō'bă-tĭv*, serving for proof or trial. PRO'BATORY, a. *-tėr-ĭ*, serving for trial; relating to proof. PROBATOR, n. *prō-bā'tŏr*, an examiner; in *law*, an approver or accuser.—SYN. of 'probation': proof; evidence; testimony; trial; examination; inquisition; novitiate.

PROBE, n. *prōb* [L. *probo*, I test, try, or prove]: in *surg.*, a small slender rod for examining a wound, ulcer, or cavity, that which searches or examines: V. to search or examine; as with a probe; to search into or examine thoroughly; to scrutinize. PRO'BING, imp. PROBED, pp. *prōbd*. PROBE-SCISSORS, in *surg.*, a kind of scissors used for laying open wounds.

PROBITY, n. *prŏb'ĭ-tĭ* or *prō'bĭ-tĭ* [F. *probité*—from L. *probĭtas*, goodness—from *probus*, good, excellent: It. *probita*]: strict conformity of actions to the laws of justice; honesty; uprightness; integrity.—SYN.: honesty; sincerity; uprightness; integrity; rectitude; veracity.

PROBLEM, n. *prŏb'lĕm* [F. *problème*—from L. and Gr. *problēma*, a question proposed for solution—from Gr. *pro*, before; *ballō*, I throw: It. *problema*]: a question involving doubt or uncertainty proposed for solution; in *geom.*, a proposition in which some operation or construction is required; in *alg.*, a proposition which requires some unknown truth to be discovered or demonstrated; in *logic*, a proposition which, appearing neither absolutely true nor false, may consequently be asserted either in the affirmative or negative. PROB'LEMAT'IC, a. *-măt'ĭk*, or PROB'LEMAT'ICAL, a. *-măt'ĭ-kăl*, characterized by doubt and uncertainty; questionable. PROB'LEMAT'ICALLY, ad. *-kăl-lĭ*.—SYN. of 'problematical': uncertain; unsettled; disputed; disputable; questionable.

PROBOSCIS, n. *prō-bŏs'sĭs* [L. *prŏbos'cis;* Gr. *probos'kis*, a trunk—from Gr. *pro*, before; *boskō*, I feed: It. and F. *proboscide*, a trunk]: the snout or trunk of an elephant; the long snout of other animals, particularly insects. **PROBOSCIDIAN**, n. *prŏb'ŏs-sĭd'ĭ-ăn*, an animal having a proboscis: ADJ. having a proboscis. **PROBOSCIDEA**, n. plu. *prŏb'ŏs-sĭd'ĕ-ă* order of mammals comprising the elephants. This section of Pachydermata contains one recent and one fossil genus, *Elephas* (see ELEPHANT) and *Mastodon* (q.v.); so that the P. seem not to have been numerous at any period of the earth's history. Notwithstanding the great size of these creatures, comparative anatomists have pointed out various resemblances in their dentition, osteology, etc., to rodents.

PROBOS'CIS MON'KEY: see NASALUS.

PROBUS, *prō'bŭs*, MARCUS AURELIUS, Emperor of Rome: probably about 232–282 (reigned 276–282); b. Sirmium, in Pannonia; only son of Maximus, who was first a centurion, afterward tribune in the Roman army, and who died in Eygpt, leaving to P. a good name and a moderate income. P. early entered the army, and attracted the favorable notice of Emperor Valerian, who elevated him before the legal period to the rank of tribune. His subsequent conduct justified his rapid promotion, for he greatly distinguished himself against the Sarmatians on the Danube, and subsequently in Africa, Egypt, Asia, Germany, and Gaul, winning golden opinions from Valerian's successors, Gallienus, Claudius II., Aurelian, and Tacitus. By the last-named emperor, he was appointed gov. of all the Roman possessions in Asia, and declared the chief mainstay of the Roman power; and such was the zealous attachment evinced for him by his soldiers, on account of his firm discipline, by his care in providing for their wants and comforts, and his liberality in the distribution of plunder, that, on the death of Tacitus, they forced him to assume the purple. P. was enthusiastically hailed emperor by all classes. His brief reign was signalized by brilliant and important successes; the Germans, who, since Aurelian's time, had made Gaul almost a part of Germany, were driven out with enormous slaughter, pursued into the heart of their own country, compelled to restore their plunder, and to furnish a contingent to the Roman armies. Pursuing his victorious career, P. swept the inimical barbarians from the Rhætian, Pannonian, and Thracian frontiers, and forced Persia to agree to a humiliating peace. Various aspirants to the imperial purple were put down. On his return to Rome, P. celebrated these fortunate achievements by a triumph, and then, the external security of the empire being established, turned to development of its internal resources. The senate was confirmed in its privileges; liberal encouragement was given to agriculture; numerous colonies of barbarians were established in thinly-peopled spots, that they might adopt civilized life; and all branches of industry were protected and promoted. But P. was at a loss what to do with his army, as the Romans had now no enemies either at home or abroad; and fearing that their discipline would be deteriorated by a life of inactivity, he employed the soldiers as laborers in executing various extensive and important works of public utility. Such occupations, considered as degrading by the soldiers, excited among them great irritation and discontent; and a large body of troops, who were engaged in draining the swamps about Sirmium, giving way to these feelings, under the excitement produced by the presence of the emperor, murdered him in a mutiny. P. possessed great military genius, combined with equal administrative talent, and added to these a wisdom, justice, and amiability equal to that of Trajan or the Antonines.

PROCAMBIUM, n. *prō-kăm'bĭ-ŭm* [new L. *cambĭum*, nutriment; L. *cambĭo*, I change]: in *bot.*, the prosenchymatous tissue of a future fibro-vascular bundle: see CAMBIUM.

PROCED'URE, in Law: the whole system of appropriate methods for enforcement of legal rights. The entire body of jurisprudence or law may be roughly divided into substantive law and procedure. Substantive law deals with the principles or rules forming the basis of rights, or the rights themselves, whether of person or property. Procedure, on the other hand, is the method of enforcing those rights by appropriate legal remedies. The procedure in American courts is founded largely on that of the mother country, but varies much in different states. In many of the states the procedure has been codified, i.e., reduced to a written system of rules. Where not so codified, the procedure is governed by statutes more or less far-reaching, rules enacted by the judges for orderly transaction of business; and in default of statutes or rules, by decisions taken from analogous cases. Procedure in American courts is much simpler to-day than in former times. Prominent among the influences which have brought this result, are abolition in many of the states of separate tribunals for enforcement of legal and equitable remedies, likewise of numerous obsolete forms of action; shortening of writs and pleadings, and demolition of that ancient citadel of chicanery and subtlety known under the English common law as 'special pleading.' These reforms though very salutary and far-reaching still leave untouched evils relative to the speedy enforcement of judgments when secured, and to the bringing to trial and hearing of appeals of causes after they have been started. Legislation is needed to enable causes to be reached more quickly for trial, and to limit the number of appeals.

PROCED'URE, RULES OF LEGISLATIVE AND DELIBERATIVE: regulations for parliamentary and deliberative assemblies. The collective term 'parliamentary law' is applicable to that body of rules and precedents by which the deliberations of public bodies and assemblies are regulated. In the usages of the British parliament, especially of the house of commons, parliamentary law originated. A leading writer (Cushing, *Elements of the Law and Practice of Legislative Assemblies*) resolves the subject of American parliamentary law into these elements:

1. The law of parliament, or that which belongs to every legislative assembly of English origin, by the mere fact of its creation. The best evidence of this is to be found in the usages of the house of commons. In this country, it is common for each assembly, besides the common parliamentary law, to be governed by its own rules and orders.

2. Usages introduced by practice into this country, and which do not depend for existence on any rule or order. The most prominent if not the only proceeding of this kind is the motion to reconsider. This motion is usually regulated in each assembly by a special rule.

3. Proceedings, which occasionally take place in parliament, but are in frequent use in this country. An appeal from the decision of the presiding officer on a point of order is of this kind.

4. Modifications introduced by constitution. The most common provision of this sort is the requisition that certain questions shall be taken by the yeas and nays of the members. A very frequent provision of the same kind is, that every assembly shall be governed by its own rules and orders.

5. Proceedings which very commonly prevail, and which depend for their existence upon the rules and orders of each assembly, and which would not exist unless specially provided for by rules and orders for the purpose. Thus, it is generally established, in our legislative assemblies, that certain motions shall be decided without debate; that motions may be withdrawn, modified, or divided, at the pleasure of the mover; and that amendments shall be in harmony with the proposition to be amended.—For details of procedure, see various manuals.

PROCEED, v. *prō-sēd'* [L. *procedĕrĕ*, to advance—from *pro*, forward; *cēdo*, I go: It. *procedere:* F. *procéder*]: to pass from one step to another; to advance; to make progress; to come, as from a source; to emanate; to begin and carry on; to conduct; to carry on a legal process; to prosecute any design; to have a course; to be propagated; to come by generation; to be produced. **Proceed'ing**, imp.: N. a process from one thing to another; a measure or step taken in business; a transaction. **Proceed'ed**, pp. **Proceed'ings**, n. plu. *-ĭngz*, course of dealing with others; legal process. **Proced'ure**, n. *-ūr* [F.]: act of proceeding; a series of actions; manner of proceeding; management; conduct. **Proceeds**, n. plu. *prō'sēdz*, the sum or amount of money obtained for goods or property sold; rent, as of an estate.—Syn. of 'proceed': to arise; advance; emanate; progress: issue; spring; go on; flow; move; pass; go forward; begin; promote; conduct; act; transact; commence; carry on;—of 'proceeding, n.': action; measure; step; process; procedure; procession; transaction; operation; advance; course; management.

PROCELEUSMATIC, a. *prŏs'ĕ-lūs-măt'ĭk* [Gr. *prok'ĕleus-mat'ĭkŏs*, capable of excitement—from *pro*, before; *keleusma*, a cheering cry—from *keleu'ō*, I exhort]: cheering or animating, as by a song or call; applied to a poetical foot consisting of four short syllables—a double pyrrhic.

PROCELLARIAN, n. *prŏs'ĕl-lā'rĭ-ăn* [L. *procella*, a storm]: the petrel: one of a genus of birds living chiefly at sea—called the **PROC'ELLA'RIA**, *-lā'rĭ-ă*. **PROCEL'LARID**, n. *-lă-rĭd*, one of the Procellaria.

PROCÈS, n. *prō'sā* [F. *procès*, a suit or process]: process. **PROCES VERBAL**, *prō'sā vėr'băl* [F. *verbal*]: in *F. law*, a written report of an official act, or a statement of facts; proceedings of an assembly.

PROCESS, n. *prŏs'sĕs* or *prō'sĕs* [F. *procès*, an onward movement—from L. *proces'sus*, an advance, process—from *pro*, forward; *cessus*, gone or moved along; *cēdo*, I go: It. *processo*]: advance; gradual progress; course of operations or proceedings; series of changes in growth, decay, etc.; continual passage, as of time; in *law*, the whole course of proceedings in a cause (see below): in *anat.*, a projecting part of a bone; any protuberance; in *bot.*, any prominence, projecting part, or small lobe; the principal divisions of the inner peristome of mosses. **PROCESS-WORK**, or **PROCESS PRINTING**, or **PHOTO-PROCESS PRINTING** (see PHOTO-PROCESS). **PROCESSION**, n. *prō-sĕsh'ŭn* [F.—L.]: a train of persons moving with ceremonious solemnity either on foot or on horseback (see PROCESSIONS): the act of issuing or proceeding from; an issuing forth. **PROCES'SIONAL**, a. *-ăl* [F.], or **PROCES'SIONARY**, a. *-ŭn-ėr-ĭ*, marching or going forward; relating to or consisting in a procession. **PROCES'SIONALLY**, ad. *-lĭ*, in the way of procession. **PROCES'SIONAL**, n. in *Rom. Cath. Chh.*, service-book containing the prayers, hymns, and general ceremonial of the different processions. Many ancient books of this class have been preserved. The processional approved for common use is that of Rome, of which many editions have been published. **IN PROCESS**, in the condition of advance or accomplishment; begun but not completed.

PROC'ESS, in Law: course of action by which a court calls parties before it and gives effect to its decisions. It is in general the entire proceedings in an action from the beginning to the end. Further it may be defined as a collective term for judicial writs. Process was, under English law, divided into original, mesne, and final process or execution. Mesne, and final process however, are the only ones known to-day.—In patent law, a process is a means or method employed to produce a certain result or effect, either by chemical action, or by the operation or application of some element or power of nature, or of one substance to another, irrespective of any machine or mechanical device. It is in this sense that a process is patentable.

PROCES'SION OF THE HOLY GHOST, in Theology: the emanation or issuing of the Holy Spirit from the Father—known as 'Single P.,' or from the Father and the Son—known as 'Double P.' The doctrine of P. (Double P.) as set forth in the Roman Church, teaches that as the Son proceeds (or is begotten) from the Father, so the Holy Spirit proceeds (or emanates) from the Father and from the Son, but as from one principle. The question of the essential relation of the Holy Spirit to the Father was not distinctly raised in the early controversies, which concerned chiefly the Lord Jesus Christ. In the Creed of Nicæa, no allusion is made to the subject; and in the Creed of Constantinople, the Holy Spirit is said simply to 'proceed from the Father.' Nevertheless, this was understood in the Latin Church to mean that as the Son proceeds from the Father, the Holy Ghost proceeds from both Father and Son; and in the 7th and 8th c., the words 'and from the Son,' for greater distinctness, came to be added to the creed in several churches—e.g., the West. In the controversy with the Latins, Photius (q.v.) took exception to this addition, as unauthorized, and made the addition one of the grounds for his charge of heresy against them, which was resumed on the consummation of the schism under Michael Cerularius. In the union of the Greek and Latin churches at Florence (1437) an article of agreement on this head was adopted, and the words *Filioque* were sung twice over both in Latin and in Greek, in the solemn mass which celebrated the union. But this union had no root in the popular mind, and the dispute still continues as of old to divide the churches. (See FILIOQUE).

PROCES'SIONS: solemn religious rites; observances of very great antiquity. With the Greeks and Romans, they were chiefly on the festivals of Diana, Bacchus, Ceres, and other deities; also previous to the games in the Circus; and in spring, when the fields were sprinkled with holy water to increase their fertility. The priests used to head the P., carrying images of the gods and goddesses to be propitiated, and started either from certain temples or from the Capitol. Among the Jews, P. around the altar were (and still are to some extent) usual on the Feast of Tabernacles; and from them the Mohammedans adopted their mode of encompassing the sanctuary seven times at Mecca (q.v.). P. form a prominent part of Buddhist worship. The practice was early adopted in the Christian Church. The Reformation abolished it; and even in the Rom. Cath. Church, especially in mixed countries, P. are less frequent or popular than in former years. They are in that church either supplicatory processions or cross processions, and are either directed to a certain distant place—to some miraculous image or object, or they are confined to the streets of the cities and the alleys or passageways within and around churches. Banners, crosses, and images are generally carried in front; the clergy follow; and the people make up the rear, singing hymns or reciting prayers: see PROCESSIONAL. In some Prot. states, they are still permitted, under certain restrictions. There is no doubt that, whatever their general intrinsic value, they offer in many instances one of the most strikingly picturesque features of the Roman faith; and that they answer a certain instinctive want in the multitude. For extensive pilgrimages, as such, their history and rites, see PILGRIM: MECCA: FESTIVALS: ETC.

PROCHEIN, n. *prō'shĕn* [F. *prochain;* It. *prossimano* —from L. *proximus*, the nearest, next]: next; nearest; in the *law phrase*, **Pro'chein a'mi**, *â'mĭ* [F. *ami*, friend]: old Norman-French for next friend, still used in English law, to denote the person in whose name an infant sues in a court of law, or a married woman in a court of equity. The chief object is to have a person responsible for costs: see Next (Next Friend).

PROCHRONISM, n. *prō'krŏn-ĭzm* [Gr. *pro*, before; *chronos*, time]: the dating an event before the time it happened.

PROCIDA, *prō'chē-dâ:* islet of Italy, 3 m. long, 1 m. broad, between the island of Ischia and the shores of Naples, separated from both by sea-ways about a mile in width. On its shores is the city of P. with a commodious harbor, a fine regal palace, and a horrible state prison, recently rendered famous by Carlo Poerio (q.v.), who was confined there in chains. Pop. of P. (1881), 10,891.

PROCIDENCE, n. *prŏs'ĭ-dĕns* [L. *procĭden'tĭa*, a falling down or forward—from *pro*, forward; *cadĕrĕ*, to fall]: in *surg.*, the falling down of some organ or part, as the anus, uterus, etc. **Prociduous**, a. *prō-sĭd'ū-ŭs* [L. *procid'ŭŭs*, falling forward]: that falls from its place.

PROCINCT, n. *prō-sĭngkt'* [L. *procinc'tus*, prepared, equipped—from *pro*, before; *cingo*, I gird]: in *OE.*, complete preparation: Adj. ready. **In procinct**, for L. *in procinctu*, in a state of readiness.

PROCLAIM, v. *prō-klām'* [F. *proclamer;* L. *proclamārĕ*, to vociferate, to proclaim—from *pro*, forth; *clamo*, I cry out or call : It. *proclamare*] : to utter openly; to announce or publish; to outlaw by public denunciation; to make public; to publish officially. **Proclaim'ing**, imp. **Proclaimed'**, pp. *-klāmd'*. **Proclaim'er**, n. *-ėr*, one who proclaims. **Proclamation**, n. *prŏk'lă-mā'shŭn* [F.—L.]: a public notice given by a sovereign or supreme authority of a state to the people; official notice given to the public; a decree; an edict. The power of issuing proclamations is part of the prerogative of royalty in lands where royalty is considered the fountain of justice; and it pertains indispensably to a republican govt. considered as representing the rights and powers of the whole people. Proclamations consist sometimes of an authoritative announcement of some matter of state, or act of the executive govt. affecting the duties and obligations of subjects. The demise of the crown, and accession of a new sovereign, a declaration of war, and the issue of new coin, are occasions on which a P. is issued. A proclamation may be issued to declare the intention of the executive to exercise some prerogative or enforce some law which has long been dormant ; or it may set forth a governmental purpose or plan, or call for action by the mass of the people, in an emergency, e.g., in war or rebellion. But the most usual class of proclamations are admonitory notices for the prevention of offenses, consisting of formal declarations of existing laws and penalties, and of intention to enforce them. A P. is binding only when it does not contradict existing laws, or tend to establish new laws, but only enforces those already in being, in such manner as the executive judges necessary. In England, in later times, it was maintained by the crown lawyers that the king might suspend or dispense with an existing law by proclamation; but this power was by act 1 Will. and Mary c. 2 declared not to exist.—SYN. of 'proclaim': to announce; publish; promulgate; declare; herald; outlaw.

PROCLIANIST, n. *prō'klĭ-an-ĭst:* in *chh. hist.*, one of a sect of Montanists, named after their founder Proclus (q.v.).

PROCLITIC, a. *prō-klĭt'ĭk* [Gr. *proklinō*, I lean forward; *pro*, forward; *klinō*, I bend, I lean]: in *gram.*, applied to a monosyllabic word which leans upon, or is so closely attached to, a following word, as to have no independent existence, and therefore no accent; atonic.

PROCLIVOUS, a. *prō-klī'vŭs* [L. *proclīvus*, inclining, sloping—from *pro*, forward; *clīvus*, a slope]: inclining forward or toward; descending; tending by nature. **PROCLIVITY**, n. *prō-klĭv'ĭ'tĭ*, proneness; tendency; an inclination or disposition.

PROCLUS, *prō'klŭs*, called the SUCCESSOR (*Diadochos*)—i.e., of Syrianus as the head of the Athenian school: renowned Neo-Platonist: 412–485; b. Constantinople. He was of Lycian origin, and received his first instruction at Xanthus, in Lycia. He then studied at Alexandria under Arion, Leonaras, Hero, and especially under Heliodorus, with whom he applied himself chiefly to Aristotelian and Platonic philosophy. Thence he went to Athens, where a certain Plutarch, a philosopher, and his daughter, Asclepigieneia, became his instructors—the latter a priestess of Eleusis, chiefly in theurgic mysteries. The vivid imagination and enthusiastic temperament which in his childhood had led him to believe in apparitions of Minerva and Apollo, naturally convinced him, when all the influences of the Mysteries (q.v.) were brought to bear upon him, still more of his immediate and direct intercommunication with the gods; and he distinctly believed himself to be one of the few chosen links of the Hermaic chain through which divine revelation reaches mankind. His soul had, he thought, once lived in Nicomachus the Pythagorean, and, like him, he had the power to command the elements to a certain extent, to produce rain, to temper the sun's heat, etc. The Orphic Poems, the writings of Hermes, and all that strangely mystical literature with which the age abounded, were to him the only source of true philosophy, and he considered them all as more or less divine revelations. That same cosmopolitan spirit in religious matters which pervaded Rome toward her end, had spread throughout all the civilized 'pagan' world of those days, and P. laid it down as an axiom, that a true philosopher must be also a hierophant of the whole world. Acquainted with all the creeds and rites of the ancient Pantheons of various nations, he not only philosophized on them in an allegorizing and symbolizing spirit, as many of his contemporaries did, but practiced all the ceremonies, however hard and painful. Especially the practice of fasting in honor of Egyptian deities, while on the one hand, it developed more and more his hallucinations and dreams of divine intercourse, on the other hand more than once endangered his life. Of impulsive piety, and eager to win disciples from Christianity itself, he made himself obnoxious to the Christian authorities at Athens; who, in accordance with the spirit of religious intolerance and fanaticism which then began to animate the new and successful religion against which P. waged constant war, banished him from the city. Allowed to return, he acted with somewhat more prudence and circumspection, and allowed only his most approved disciples to take part in the nightly assemblies in which he propounded his doctrines. He died in his full vigor, and in entire possession of all his mental powers, for which he was no less remarkable than forpersonal beauty and strength.

Respecting his system, some modern philosophers have exalted it to an extent which his own works hardly warrant. Victor Cousin holds that he has concentrated in it all the philosophical rays which emanated from the heads of the greatest thinkers of Greece, such as Pythagoras, Plato, Aristotle, etc. P. recognizes a certain kind of unity of the Creator, or rather of the divine mind, of which he took the human to be a fragment; and he speaks of the 'One' and 'The First.' The human soul he considered wrapped up in various more or less dense veils, according to the degree of perfection attained; and he further assumed a certain sort of solidarity between the souls of those who naturally or by certain immutable circumstances were linked together, e.g., children and parents, rulers and subjects; and he carried this doctrine so far as to assert that the children must naturally participate in their parents' faults. Faith alone, he further held, was essential to attainment of Theurgy, which, comprising mantic and supernatural inspiration, is preferable to all human wisdom; and in this chiefly he differs from Plotinus (q.v.), with whose system he agrees in most other respects. He further tries to recognize and to fathom the original mysterious One by combination of figures, strongly reminding us of Gnosticism and the later Kabbala. His way of developing finite beings out of the infinite Unit also is peculiar. A whole series of triads, at the head of each of which again stands a unit, goes in various gradations through the creation, the lower powers emanating from the higher, which are the thinking and creative ideas, etc. See PLOTINUS: GNOSTICS.

Of his manifold works, there have survived several hymns, which, by the true poetical and religious spirit which pervades them, stand out most favorably among the generally inane Orphic hymns. Of his astronomical and mathematical writings, there have survived a short summary of the chief theories of Hipparchus, Aristarchus, Claudius Ptolemæus, and others; a work *On the Heavenly*

Spheres; a Commentary on Euclid; and a work—known in only a Latin translation—*On the Effects of the Eclipses of the Sun and Moon.* His grammatical works consist of commentaries on Homer, Hesiod, etc. The greater part of his writings is devoted to philosophy. These are partly commentaries and paraphrases of Platonic dialogues, partly embodiments of his own ideas in systematic form. We thus have a work—preserved in Latin only—*On Providence and Fate, On the Ten Doubts about Providence, etc., On Platonic Theology,* and other minor works, extant in more or less fragmentary form, and repeatedly edited, with translations and modern commentaries. The most important of his works, however, is *Philosophical and Theological Institution,* in which P. geometrically, as it were, evolves his doctrines by heading each of its 211 chapters by a kind of proposition which he proceeds to demonstrate, appending corollaries in some instances. He treats in it chiefly on unity and multiplicity, on productive causes and effects, on the highest good, on that which suffices in itself, on immobility, perfection, eternity, divinity, and intelligence; on the soul, etc. Next in importance are his commentaries on Plato's *Timæus,* which, however, now embraces only a third of this dialogue, a similar commentary on Plato's *Parmenides,* in seven books, on *Cratylus,* the *First Alcibiades,* and fragments on other Platonic writings. Some other works attributed to P. have by modern investigators been pronounced spurious.

PROCŒLOUS, a. *prō-sē'lŭs,* or **Procœ'lian**, a. *-lĭ-ăn* [Gr. *pro,* before; *koilos,* hollow]: applied to those vertebræ which have a cup or cavity at the fore part and a ball at the back; applied to certain animals which manifest this vertebral character.

PRO CONFESSO, phrase, *prō kŏn-fĕs'ō* [L. for a thing confessed]: held or taken as confessed or admitted.

PROCONSUL, n. *prō-kŏn'sŭl* [L. *pro,* for; *consul,* a chief magistrate of anc. Rome]: in *anc. Rome,* magistrate not holding the consulship, invested with powers nearly approaching those of a consul, not, however, extending over the city and its vicinity. The P. was, at first, one who had held the office of consul, whose *imperium* was prolonged to enable him to bring an unfinished campaign to a close: the duration of the office was a year. During the latter period of the republic, when the consuls were expected to spend the year of their consulate at Rome, they were generally appointed at its close to undertake, as proconsuls, either the conduct of a war in some province, or its peaceful administration. Occasionally, the office of P., with the govt. of a province, was conferred on a person who had never held the consulship.—Under Constantine, parts of certain dioceses came to be governed by proconsuls. **Procon'sular**, a. *-sū-lėr,* pertaining to a proconsul, or under his government. **Procon'sulate**, n. *-sū-lāt,* or **Procon'sulship**, n. *-sŭl-shĭp,* the office of a proconsul, or the term of his office.

PROCOP, *prō'kop*, ANDREW; known as P. the Elder, or the Holy or the Shaven (in allusion to his having received the tonsure in early life): Hussite leader: about 1380–1434, May 30; b. in Bohemia, of a noble family of Prague. After travelling for some years through France and Spain, he returned to Bohemia at the outbreak of the religious wars, in which Ziska (q.v.) was prominent, and at once entered the ranks of the insurgent Hussites. His military genius soon raised him to the rank of a commander; and on the death of Ziska 1424, P. was elected by the Taborites, an important section of the Hussites, as their leader; and till 1427 his history presents an almost unbroken series of daring attacks upon the Austrians. In the meantime, another body of Taborites, who called themselves Orphans, had overrun Lausitz, and burned Lauban, under the leadership of a man, subsequently known as Procop the Less or Younger, who 1427, in concert with the more distinguished P., attacked Silesia, and took part in those internal feuds of the Hussite factions by which Bohemia was almost ruined. Only the threatened approach of three German armies levied by the neighboring states to carry on an exterminating crusade against the heretics, was able to restore unanimity to the divided Hussites, who under the leadership of the two Procops, offered a desperate and successful resistance to the larger numbers of the Germans, subsequently pursuing their enemies with fire and sword through Silesia, Moravia, and Hungary, as far as Presburg. In 1429 P. made inroads into the German states as far as Magdeburg, and returned to Bohemia laden with spoil, and followed by a numerous band of captive nobles and knights; and in the following year, at the head of 50,000 men-at-arms, and 25,000 horsemen, he again broke into Misnia, Franconia, and Bavaria, and after having burned 100 castles and towns, and destroyed 1,400 villages and hamlets, and carried off vast treasure, turned his arms against Moravia and Silesia. Emperor Sigismund at this crisis offered to treat with him; but the imperial demand, that the Hussites should submit to the decision of a council, afforded P. a pretext for breaking off all negotiations with the imperial court. A second German crusading army advanced 1431, but was thoroughly defeated at Riesenburg. These successes, followed by others of nearly equal importance in Silesia, Hungary, and Saxony, where the princes had to purchase peace at the hands of the two Procops, on humiliating terms, induced the council of Basel to propose a meeting between the Hussite leaders and ten learned Rom. Cath. doctors. The meeting lasted 50 days, but produced no good result, and P. returned to Bohemia, where, combining his forces with those of Procop the Lesser, he laid siege to Pilsen. The council, on this, passed an act known as the Basel Compact, by which the Hussites were allowed the use of the cup in the Lord's Supper, and the Bohemians were designated by the title of the 'First Sons of the Catholic Church.' The Taborites and Orphans, under the leadership of the two Procops, refused, however, to have anything to do with the pope; hence dissensions arose between them and the more moderate Hussites. After many minor encounters between these factions a decisive battle was fought near Lipau, 1434, in which P. was induced, by a feint of the enemy, to leave his intrenchments. His followers at first fought desperately against the troops of the Bohemian nobles commanded by Meinhard of Neuhaus; but at length, under a sudden panic, they gave way, and took to flight. P. after vainly striving to reform their broken lines, threw himself into the midst of the enemy, and was killed.—PROCOP THE LESSER, following in his steps was also slain, and with these two great Hussite leaders the cause of the Taborites perished.

PROCOPIUS, *prō-kō'pĭ-ŭs:* most eminent Byzantine historian; b. at Cæsarea, in Palestine, prob. between 485 and 495; died some time after 559, it is supposed about 565. He went to Constantinople when still a young man, and acquired there so high a reputation as a prof. of rhetoric, that Belisarius, 527, appointed him his private sec. P. accompanied the great warrior in all his important campaigns in Asia, Africa, and Italy, and appears to have shown remarkable practical as well as literary talent, for we find him at the head both of the commissariat department and of the Byzantine navy. He returned to Constantinople shortly before 542, was highly honored by Justinian, and appointed prefect of the metropolis 562. P.'s principal works are *Historiæ*, 8 books (two on the Persian war 408–553; two on the war with the Vandals 395–545; four on the Gothic war, to 553); *Ktismata*, or six books on the buildings executed or restored by Justinian; and *Anekdota*, or *Historia Arcana* (of doubtful genuineness), a sort of *chronique scandaleuse* of the court of Justinian, in which the emperor, his wife Theodora, Belisarius, *his* wife Antonina, and other distinguished persons, are depicted in darkest colors. The most valuable of these productions is the first, in which P. writes with the clearness, weight, and fulness of knowledge that might be expected of an eyewitness of much of what he narrates, who had occupied a position that fitted him to understand thoroughly what he had seen. He is the principal authority for the reign of Justinian. His style is pure, vigorous, and flexible. The best ed. of his complete works is by Dindorf (3 vols. Bonn, 1833–38).

PROCRASTINATE, v. *prō-krăs'tĭ-nāt* [L. *procras'tinātus*, procrastinated—from *pro*, for, and *crastĭnus*, of to-morrow—from *cras*, to-morrow: It. *procrastinare:* F. *procrastiner*]: to put off till to-morrow, or to a future time; to defer; to delay. PROCRAS'TINATING, imp. PROCRAS'TINATED, pp. PROCRAS'TINATOR, n. *-nā-tėr*, one who procrastinates. PROCRAS'TINA'TION, n. *-nā'shŭn*, a putting off till to-morrow, or to a future time; delay.—SYN. of 'procrastinate': to defer; delay; put off; postpone; adjourn; defer; retard; prolong; protract.

PROCREATE, v. *prō′krē-āt* [L. *procreātus*, generated, begotten—from *pro*, for: *creo*, I make, I beget: It. *procreare:* F. *procréer*]: to generate and produce; to beget; to propagate. **PRO′CREATING**, imp. **PRO′CREATED**, pp. **PRO′CREA′TOR**, n. *-tėr*, one who procreates. **PRO′CREA′TION**, n. *-ā′shŭn* [F.—L.]: the act of begetting; generation and production of young. **PRO’CREANT**, a. *-ănt*, generating; productive. **PRO′CREATIVE**, a. *-ā-tĭv*, having power or tendency to beget; productive. **PRO′CREATIVENESS**, n. *-nĕs*, the power of generating.

PROCRUSTES, n. *prō-krŭs′tēz* [Gr. ‘the stretcher’]: surname in anc. myth of a celebrated robber of Attica, named Damastes, or Polypemon. According to the legend, he was wont to place all persons who fell into his hands upon a bed which was made either too long or too short for them, and where he fitted them to its length by stretching their bodies, or by cutting them shorter, mutilating and racking their limbs till they died. This he continued to do until Theseus overpowered him, and made him suffer the tortures that he had inflicted on others. The story has given rise to figurative expressions; e.g., an author subjected by a critic to a cruel or unfair mode of criticism is said to be stretched on ‘the bed of Procrustes.’ **PROCRUS′TEAN**, a. *-tē-ăn*, pert. to P., or his mode of torture.

PROCTER, *prŏk′tėr*, **ADELAIDE ANNE**: English poetess: 1825, Oct. 30—1864, Feb. 2; b. London; eldest daughter of Bryan Waller P. (Barry Cornwall), the poet. Her first verses were contributed to the *Cornhill Magazine, Good Words* and *All the Year Around*, under the signature Mary Berwick, and her poems attracted the notice of Charles Dickens before he knew that they were by a daughter of his friend. He afterward wrote an introduction to them, when the two series of *Legends and Lyrics*, 1858–60, were collected in one vol. (1866). She published *Chaplet of Verses* (1862), and contributed to a volume of poems entitled *Victoria Regia.* She died, a Rom. Cath., in London.

PROC′TER, **BRYAN WALLER**; better known as **BARRY CORNWALL**: 1787, Nov. 21—1874, Oct. 4: English poet. He was educated at Harrow; studied law, was called to the bar 1831, and for many years was one of the Commissioners of Lunacy, but resigned 1860. His *Dramatic Scenes, and Other Poems* were published 1819, and he subsequently produced several volumes, both of verse and prose, the most important being *Mirandola, a Tragedy*, produced with great success at Covent Garden. As a poet, P. belongs to the school of Keats and Hunt; and through all his works the influence of the old English dramatists is traceable. It is not however, on his *Dramatic Scenes* or his tragedies, but on his *English Songs and Lyrics*, that P.'s reputation rests. He may fairly be considered the best of modern English song-writers. *Bryan Waller P., an Autobiographical Fragment, with Biographical Notes*, appeared 1877.—**ADELAIDE ANNE P.** (q.v.), a poetess, was his daughter.

PROCTOR, n. *prŏk′tėr* [a contr. of Eng. *procurator*—from L. *pro*, for; *cūro*, I take care of (see PROCURE)]: one who manages another's affairs; a duly qualified person who acts for another in eccles. or civil courts, such as admiralty courts, etc., in England—in which it corresponds to Attorney (q.v.) or Solicitor (q.v.) in the other courts; a member of the English convocation. Proctors are also officers in the universities of Oxford and Cambridge, England (two in number in each), whose duties are to preserve the peace of the univ., to repress disorders among the students, and inflict summary academical punishment: they have command of the academical constabulary force, and have also extensive police jurisdiction in the town. The proctors must be masters of arts, and are chosen by the several colleges according to a certain rotation: they nominate two pro-proctors to be their deputies and assistants. The summary authority of the proctors extends both to undergraduates and bachelors of arts: they have also a legislative authority as assistants to the heads of houses, and vote in the election of some of the professors and other officers. PROCTO′RIAL, a. *-tō′rĭ-ăl*, relating to a proctor. PROC′TORSHIP, n. *-tėr-shĭp*, the office or dignity of the proctor of a university.

PROCTOR, *prŏk′tėr*, EDNA DEAN: poetess: b. 1838, at Henniker, N. H. She was educated at Concord, N. H., and has resided most of her life with her kinsman Charles Storrs, of Brooklyn, N. Y., whose library is noted for extent and richness. Her beauty of person and character have made her a social favorite, and her poems have had a wide circulation; and from Whittier, Longfellow, and others, some of them have received high praise; e.g., 'O Loved and Lost,' 'Russia,' and 'By the Shenandoah.' During the civil war, she wrote the popular lyrics, 'The Stars and Stripes,' 'Who's Ready?' etc. Besides editing extracts from the sermons of Henry Ward Beecher, she has published *Poems* (1866) and a book of travels—*A Russian Journey* (1872).

PROC′TOR, REDFIELD: lawyer: b. Proctorville, Vt., 1831, June 1. He graduated at Dartmouth College 1851, and at the Albany Law School 1859, and began practicing in Boston. In 1861 he volunteered for the army; became quartermaster of the 3d, maj. of the 5th, and col. of the 15th Vt. regts.; and resigned on account of ill health after the Gettysburg battles. In 1869 he was appointed receiver of a marble company, which he saved from bankruptcy and made the basis of one of the largest marble concerns in the country. He was elected republican state senator 1874, lieut.gov. 1876, and gov. 1878; was a delegate to the convention that nominated Benjamin Harrison for pres. 1888; and was appointed sec. of war 1889.

PROC'TOR, RICHARD ANTHONY: astronomer: 1837, March 23—1888, Sep. 12; b. Chelsea, Eng. He was educated at King's Coll., London, and St. John's Coll., Cambridge, and graduated at the latter univ. 1860 with high mathematical honors. He was elected fellow of the Royal Astronomical Soc. 1866, and ed. of its *Proceedings* 1872. Having analyzed results obtained by the Herschels, Struve, and other astronomers, and made a series of original researches, including the construction of a chart of 324,000 stars, P. conceived a new theory of the structure of the stellar universe. He investigated the conditions of the transits of Venus of 1874 and 82. He maintained, on theoretic grounds, 1869, the theory of the solar corona that has since been demonstrated by observation; also the theory of the inner complex solar atmosphere afterward established by Prof. Young, of Princeton. P. for many years travelled in the United States, and in England, delivering lectures on astronomy to popular audiences; and some years before his death he had fixed his home in the United States. He founded a weekly scientific journal in London about 1880, still continued as a monthly. He left almost complete in MS. the great work of his life, *Old and New Astronomy:* it has been appearing in monthly parts, and the 12th and last part was announced early in 1891 as ready for publication. At the same time announcement was made of a purpose entertained by California friends of P. to erect as his monument a 'Proctor Memorial Observatory' at San Diego. P. was a man of vast learning in many departments of knowledge, an indefatigable worker, and a masterful expositor of science. His writings on innumerable subjects constitute a considerable library.

PROCUMBENT, a. *prō-kŭm'bĕnt* [L. *procum'bens* or *procumben'tem*, leaning forward; *procumbĕrĕ*, to lean forward—from *pro*, forward; *cubo*, I lie]: lying down, or on the face; prostrate; in *bot.*, lying upon, or trailing along the ground; trailing.

PROCURATION, n. *prŏk'ū-rā'shŭn* [F. *procuration;* L. *procūrātio*, superintendence—from *procurārĕ*, to attend to]: the management of another's affairs; the written instr. by which a person is empowered to act for another; the money paid to a bishop or archdeacon on account of visitations. PROCURACY, n. *prŏk'ū-rā-sĭ*, the act or office of a procurator; a proxy. PROC'URATOR, n. *-tėr*, a manager of another's affairs; a proctor. PROC'URA'TORSHIP, n. the office of a procurator. PROC'URATO'RIAL, a. *-tō'rĭ-ăl*, pertaining to or done by a procurator. PROC'URA'TORY, a. *-rā'tėr-ĭ*, tending to procuration. PROCURATOR-FISCAL, the title of an important official legal practitioner in Scotland, who prosecutes offenders in the inferior courts, discharges the functions of a coroner under other systems, and usually makes the preliminary inquiries into crimes committed within the limits of his jurisdiction—an inferior officer to the lord advocate, the public prosecutor-in-chief.

PROCURE, v. *prō-kūr′* [F. *procurer*—from L. *procurārĕ*, to attend to or look after—from *pro*, for; *cūro*, I take care of: It. *procurare*]: to get; to gain; to acquire; to cause; to bring about; to bring on; to draw to; to attract; to pimp. PROCUR′ING, imp. PROCURED′, pp. *-kūrd′*. PROCUR′ER, n. *-kūr′ėr*, one who procures; a man who, and PROCUR′ESS, *-ĕs*, a woman who procures gratification for the lewdness of another. PROCURABLE, a. *prō-kūr′ă-bl*, that may be obtained. PROCURE′MENT, n. *-kūr′mĕnt*, the act of procuring or obtaining.—SYN. of ‘procure’: to acquire; obtain; gain; win; earn; attain; get; bring about; effect; cause; bring; attract.

PROCYON, n. *prŏs′ĭ-ŏn* [L. *proc′yon*—from Gr. *prokŭōn*, a constellation—from *pro*, before; *kŭōn*, a dog]: a bright star in the constellation *Canis Minor*, so called from its rising before the dog-star *Sirius*. PROCYONIDÆ: see COATI: RACCOON.

PROD, n. *prŏd*, or PROG, n. *prŏg* [Dan. *braad;* Ir. and Gael. *brod*]: a goad for oxen.

PRODICIAN, n. *prō-dĭsh′ĭ-an:* in *chh. hist.*, one of a body of Antinomi Gnostics, who took their name from Prodicus, heretic of the 2nd c., the founder of the Adamites (q.v.).

PRODIGAL, a. *prŏd′ĭ-găl* [L. *prodĭgus*, prodigal, lavish—from *pro*, forth; *agĕrĕ*, to drive: It. *prodigo:* F. *prodigue*]: given to reckless or unnecessary expenditure, as of money, strength, etc.; lavish; profusely liberal; not frugal: N. one who is profuse and lavish; a waster; a spendthrift. PROD′IGALLY, ad. *-lĭ*. PROD′IGAL′ITY, n. *-găl′ĭ-tĭ*, excessive or profuse expenditure, particularly in money; waste.—SYN. of ‘prodigal’: extravagant; lavish; profuse; free; wasteful; uneconomical.

PRODIGIOUS, a. *prō-dĭj′ŭs* [L. *prodĭgĭōsus*, marvellous, prodigious—from *prodĭgĭum*, a monster, a prodigy: It. *prodigio;* F. *prodige*, a prodigy]: very great; enormous; adapted to excite wonder; extraordinary; amazing; monstrous. PRODI′GIOUSLY, ad. *-lĭ*. PRODI′GIOUSNESS, n. *-nĕs*, the state or quality of being prodigious, or of enormous size. PRODIGY, n. *prŏd′ĭ-jĭ*, anything out of the ordinary course of nature; a thing so extraordinary as to excite wonder and astonishment; anything astonishing for good or bad; a token or omen drawn from any extraordinary event or appearance; a portent (see OMEN).—SYN. of ‘prodigious’: huge; monstrous; enormous; marvellous; portentous; amazing; astonishing; wonderful; extraordinary; vast;—of ‘prodigy’: miracle; monster; wonder; portent; marvel.

PRODITOR, n. *prŏd′ĭ-tėr* [L. *prodĭtor*, a betrayer; *prodo*, I betray—from *pro*, forth; *do*, I give]: in *OE.*, a traitor. PROD′ITORY, a. *-tėr-ĭ*, treacherous.

PRODUCE, n. *prŏd′ūs* [L. *produ′cĕrĕ*, to lead or bring forward, to extend; *produc′tus*, led or brought forward—from *pro*, forward; *dūco*, I lead or bring; *ductus*, led or brought: It. *producere:* F. *produire*]: that which is brought forth or yielded; amount; profit: V. *prō-dūs′*, to bring or offer to view; to bring forward; to bring into existence or into view; to cause, as an effect; to raise, as crops; to yield; in *geom.*, to extend, as a line or surface. **PRODU′CING**, imp. **PRODUCED′**, pp. *-dūst′*. **PRODU′CER**, n. *-sėr*, one who produces. **PRODU′CIBLE**, a. *-sĭ′bl*, that may be brought into being; that may be brought into view. **PRODUCT**, n. *prŏd′ŭkt*, that which is produced by nature, as fruits, grain, etc.; that which is made by art or labor; performance; result; in *arith.*, the number resulting from the multiplication of two or more numbers. **PRODUCTA**, n. *prō-dŭk′tă*, in *geol.*, a genus of fossil mollusks, so called from one valve of the shell being prolonged beyond the other. **PRODUC′TILE**, a. *-tĭl*, that may be extended in length. **PRODUC′TION**, n. *-shŭn* [F.—L.]: the act of producing, bringing forth, etc.; that which is produced or made; fruit; work; composition; in *political economy*, the processes by which the labor of man, either directly or indirectly, is made available for the development of utilities from the materials and forces supplied by nature. **PRODUC′TIVE**, a. *-tĭv*, that has the power or quality of producing; fertile; fruitful; causing to exist. **PRODUCTIVE** and **UNPRODUCTIVE LABOR** (see **LABOR**). **PRODUC′TIVELY**, ad. *-lĭ*. **PRODUC′TIVENESS**, n. *-nĕs*, the quality of being productive. **PRODUCTION OF DOCUMENTS**, frequent requisite in legal process, usually in accordance with a general rule that whenever a right is founded on a document, that document must be produced or shown to the court which has to determine the nature of the right.—**SYN.** of 'produce, v.': to bear; bring forth; cause; form; effect; generate; beget; extend; lengthen; afford; create; yield; occasion; make; constitute; exhibit; propagate; furnish; manufacture; prolong;—of 'product': production; yield; result; effect; fruit; number; sum; work; performance; produce; composition.

PROEM, n. *prō′ĕm* [F. *proème;* L. *proœ′mĭum;* Gr. *prooi′mĭŏn*, an introduction—from Gr. *pro*, before; *oimos*, a way or course]: a preface or introduction. **PROEMIAL**, a. *prō-ē′mĭ-ăl*, introductory; prefatory.

PROEMBRYO, n. *prō-ĕm′brĭ-ō* [Gr. *pro*, before, and Eng. *embryo*]: in *bot.*, a name given to the first part produced by the spore in germinating, from which the future plant is afterward budded.

PROEMPTOSIS, n. *prō′ĕmp-tō′sĭs* [Gr. *proempip′tein*, to fall in before—from *pro*, before; *empip′tō*, I fall in; *piptō*, I fall; *ptōsis*, a fall]: a happening before, applied to the lunar equation or addition of a day to the calendar every 330 years, and another every 2,400 years, in order to prevent the new moon being reckoned as happening a day too soon; the opposite of *metemptosis*.

PROFACE, n. *prō′fās* [It. *buon pro vi faccia*, much good may it do to you: also referred to OF. *prou-fasse*, to make profit]: in *OE.*, a term expressive of welcome and good wishes for a guest during a meal or after it; much good may it do you.

PROFANE, a. *prō-fān'* [F. *profane*—from L. *profānus*, unhallowed, unconsecrated—from *pro*, before: *fānum*, a temple: It. *profano*, profane: *lit.*, outside the temple, and therefore not consecrated]: irreverent to anything sacred; tending to bring religious things into contempt; impious; godless; impure; unholy; secular; allowed for common use: V. to treat anything sacred with irreverence or contempt; to put to a wrong use; to pollute; to defile; to debase. PROFAN'ING, imp. PROFANED', pp. *-fānd'*. PROFAN'ER, n. *-ėr*, one who profanes. PROFANATION, n. *prŏf'ă-nā'shŭn* [F.—L.]: the act of treating sacred things with irreverence or disrespect; desecration. PROFANE'LY, ad. *-lĭ*. PROFANE'NESS, n. *-nĕs*, or PROFANITY, n. *prō-făn'ĭ-tĭ*, irreverence toward sacred things. PROFANE HISTORY (see under HISTORY).—SYN. of 'profane, a.': unconsecrated; unholy; secular; polluted; irreverent; blasphemous; temporal; worldly; unsanctified; unhallowed; irreligious, wicked; impious; ungodly.

PROFERT, n. *prō'fėrt* [L. he brings forth—from *pro*, forth; *fero*, I bring]: in *law*, an exhibition of a record or paper in open court: see OYER.

PROFESS, v. *prō-fĕs'* [F. *professer*—from L. *professus*, known, manifest—from *pro*, forth; *fatĕor*, I confess or own]: to own or acknowledge; to make open declaration of; to avow; to enter publicly into any state, as into a religious order; to declare publicly one's skill or qualifications; to lay claim to; in *OE.*, to exhibit the appearance of; to declare friendship. PROFESS'ING, imp.: ADJ. making or maintaining a profession, as, a *professing* Christian. PROFESSED', pp. *-fĕst':* ADJ. openly declared or avowed. PROFESS'EDLY, ad. *-ĕd-lĭ*, by public declaration; avowedly. PROFESS'OR, n. *-fĕs'ėr*, one who professes; one employed to teach any science or branch of knowledge in a university or college (see below): one visibly and outwardly religious. PROFESSORIAL, a. *prō'fĕs-sō'rĭ-ăl* [F.—L]: pertaining to a professor. PROFES'SORSHIP, n. *-ėr-shĭp*, the office of a professor. PROFES'SION, n. *-fĕsh'ŭn* [F.—L.]: open declaration of belief, or one's sentiments; public avowal; any business or calling engaged in for subsistence, not being mechanical, in trade or in agriculture, and the like—opposed to a *trade;* the collective body of persons engaged in a particular profession, as in law or medicine; in *R. Cath. Chh.*, formal entrance into a religious order. PROFES'SIONAL, a. *-fĕsh'ŭn-ăl*, pertaining to a profession or calling; according to the etiquette or rules of a profession. PROFES'SIONALLY, ad. *-lĭ*. LEARNED PROFESSIONS, *lėrn'ĕd*, are divinity, law, and medicine.—SYN. of 'profession': trade; business; occupation; employment; art; declaration; avowal; claim; pretense; calling; vocation.

PROFESS'OR: officer in a university or college, whose duty it is to instruct students, or read lectures on particular branches of learning. In the early times of universities, the degrees conferred on students were licenses to act as public teachers; and the terms Master, Doctor, and Professor were nearly identical in signification. As, however, the body of graduates ceased in the course of time to have any concern in public teaching, a separate class of recognized teachers sprang up, paid sometimes with salaries, in other instances by fees: these were called professors; and in the German and Scottish universities became the governing body and sole recognized functionaries for the purpose of education. The German and Scottish use of the term professor is in the main that which prevails in the universities and colleges of the United States. In the universities in which collegiate foundations prevailed, e.g., Oxford and Cambridge, professors became, on the other hand, only secondaries or auxiliaries, attendance on their lectures not being generally deemed indispensable, and the necessary business of instruction being carried on by the functionaries of the several colleges.

The word professor is occasionally used loosely to denote generally the teacher of any science or branch of learning, without reference to a college or university. It has been assumed as a designation not only by instructors in music and dancing, but by conjurors.

PROFFER, v. *prŏf'fėr* [L. *profĕrō*, I bring forth, I offer—from *pro*, forth; *fero*, I bring: It. *profferire*, to proffer. F. *proférer*, to speak, to utter]: to offer or propose for acceptance; to tender; to attempt of one's own accord: N. an offer made for acceptance. PROF'FERING, imp. PROF'FERED, pp. *-fėrd*, offered for acceptance. PROF'FERER, n. *-fėr-ėr*, one who proffers.

PROFICIENCE, n. *prō-fĭsh'ĕns*, or PROFI'CIENCY, n. *-ĕn-sĭ* [L. *proficiens* or *proficĭen'tem*, going forward, making progress—from L. *pro*, forward; *facĭo*, I make: It. *proficiente*]: advancement in the acquisition of an art, a science, or any other branch of knowledge; progress in knowledge; improvement. PROFI'CIENT, n. *-ĕnt*, one who has attained to a competent knowledge of any branch of learning, or of a business, by study and application; an expert; an adept: ADJ. well qualified; skilful; competent. PROFI'CIENTLY, ad. *-lĭ*.

PROFILE n. *prō'fēl* [F. *profil*, the side of the face, a profile—from It. *proffilo*—from L. *pro* (for *per*), throughout; *fīlum*, a thread: It. *filo*, line, edge: Sp. *perfil*, an outline, contour]: head or portrait represented in outline sidewise, or in a side view, i.e., in the outline of its section through the median line; the contour of the human face viewed from one of its sides; the contour or outline of any object or objects shown in section as if cut through perpendicularly from top to bottom, e.g., as of a cornice or other series of molding, or as of a capital geometrically drawn: V. to draw with a side view. PRO'FILING, imp.: N. the art or practice of taking profiles. PRO'FILED, pp. *-fēld*. PRO'FILIST, n. *-fēl-ĭst*, one who takes profiles.

PROFIT, n. *prŏf'ĭt* [F. *profit;* It. *profitto*, profit, gain—from mid. L. *profectus*, gain, progress—from L. *proficio*, I profit, I gain—from *pro*, forward; *facio*, I make]: gain; advantage; emolument; the difference in favor of the seller between the cost and selling price of commodities; improvement: V. to benefit; to improve; to gain advantage; to receive profit; to become wiser and better; to bring good to; to be of use or advantage. PROF'ITING, imp.: N. in *Scrip.*, improvement. PROF'ITED, pp. PROF'ITABLE, a. *-ă-bl* [F.—L.]: bringing profit; lucrative; useful; beneficial. PROF'ITABLY, ad. *-blĭ*. PROF'ITABLENESS, n. *-ă-bl-nĕs*, the quality of being profitable; gainfulness. PROF'ITLESS, a. *-lĕs*, void of gain or advantage. PROF'ITLESSLY, ad. *-lĕs-lĭ*.—SYN. of 'profit, n.': benefit; advantage; gain; avail; service; improvement; advancement; emolument; acquisition.

PROF'IT-SHAR'ING: name given in France and America to a modification of the wages system now practiced by about 200 firms and corporations, which is more aptly designated in England, Industrial Partnership. Its essence is the admission of the employé to a share in the division of profits actually realized, in addition to regular wages. The proportion of this share to the total profits is determined, like every other feature of the arrangement, by the employer, who is not hampered by other parties. The practical effect has been shown to be, in the great majority of recorded cases, a feeling of partnership growing up among the employés of the establishment and resulting in an increase in the quantity of the product or an improvement in its quality, or both; larger sales; greater care of implements and machinery used; more economy of materials; less need of superintendence, and virtual disappearance of labor difficulties. These good results have almost uniformly followed when the plan has been carried out in good faith by the employer long enough to educate both parties to the agreement up to a full knowledge of its nature and its just demands. Industrial partnership is to be carefully distinguished from the ordinary *commercial* partnership, as it does not involve or allow inspection of the accounts or a voice in the control of the business. In the properly industrial department, of production or distribution, the workmen, it is presumed, will be aroused to do more and better work than under the usual wages system, and will thus '*create* by the common effort, in view of the division of profits, and with the energy this provokes, an increased return, sufficient not only to pay the workman's dividend, but even to enlarge that of the master.' These are the words of Edme. Jean Leclaire, a self-made painter and decorator of Paris (1801–72), the first employer of labor to develop this system on a considerable scale. This he did with eminent success for 30 years, beginning with a *noyau* or 'nucleus,' of his workmen 1842, and declaring the first bonus of more than $50 per man 1843, Feb. Since 1870 every person working for the famous *Maison Leclaire*, though for only a few hours, shares in the profits. Thus, 1886, a bonus of 182,500 francs (= $35,222.50), was divided, in the ratio of 21 per cent. on wages, among the 716 employés. The profit-sharing system has been most widely adopted in France: among the 80 or more firms practicing it with success are the Godin Iron Foundry at Gruse, the Laroche-Joubert Paper-works at Angoulême, and the Chaix Press and the noted *Bon Marché* in Paris.

In England the first large industrial partnership was that of Henry Briggs, Son & Co., which lasted 1865–74, and attracted much attention. The chief cause for its abandonment after nine years, in which large bonuses were paid, was in the complications arising from the extraordinary prosperity of the coal trade 1872–74. Within the last six years interest in profit-sharing has greatly increased in England. Mr. Sedley Taylor's little book on the subject (pub. 1884) contained a full review of the experiment of the Messrs. Briggs, who declared 'that nothing that has occurred seems to show that the system inaugurated at Whitwood may not eventually be generally and successfully adopted, and lead to a more intimate union of interests and a more cordial feeling between capitalists and their workmen.' About 25 English firms, beside a number of co-operative productive societies, now divide profits with their employés, including the Cassell Printing and Publishing Co., the Tangyes, engineers of Birmingham, and the Thomson Woolen Mills of Huddersfield.

In the United States the Peacedale (R. I.) Manufacturing Co. (woolens) introduced profit-sharing 1878; the Pillsbury Flour Mills of Minneapolis 1882, and in subsequent years other firms like the N. O. Nelson Company of St. Louis; the Cushman Boot and Shoe Co. of Auburn, Me.; the felt-works of A. Dolge, Dolgeville, N. Y.; foundries in Springfield, Mass., and Bucyrus, O.; the Proctor and Gamble Soap-works in Cincinnati; the Bourne Cotton Mills, Fall River, Mass.; and the Century Co. of New York. The savings-bank scheme of the Riverside Press, at Cambridge, Mass., is one of the simplest and best methods practiced in this country. As a rule, under the methods in use in the United States the bonus is paid in cash at the end of the year, and the whole body of workpeople are included. In France, on the other hand, only a part of the bonus is usually paid in cash—a part being invested in a savings bank and another part going to provide an annuity for old age. A common method with French insurance companies is the 'deferred participation,' under which the whole sum is invested for the benefit of the employé on his retirement at a fixed age.

The common objection to profit-sharing, that it does not include the sharing of losses, by the workman, out of his wages and bonuses received, rests on a confusion of ideas as to the nature of the partnership into which he is invited. If this were a commercial partnership, the workman would then be practically a member of a co-operative society, with the right to inspect the books, and a voice in shaping the business policy and in the choice of a manager. Industrial partnership, on the contrary, is a plan proceeding from the employer, who is not desirous of limiting the powers he possesses under the present wages system, but wishes his men to show more interest in their own work—entirely distinct from the counting-room—of production or distribution. This he endeavors to bring about by offering them a share in the profits: this share is naturally determined by calculating the average profits of a series of years. Before a bonus is declared in any year, a contribution should be made to the reserve fund. When the times are bad this reserve fund is to be drawn upon. If it is exhausted, wages, salaries, and other expenses must be reduced. But it would be inequitable to ask the workman into a partnership strictly limited in all its features by the employer (especially so far as the share in possible profits is concerned), and then impose on him a share of the losses in incurring which he had no responsibility. He can contribute to the profit side of the account every year, good or bad, by doing excellent work in his department. In a good year, he is rewarded for his extraordinary zeal, as compared with the common wage-earner, by a bonus: in a bad year, he has worked as well, but he gets nothing extra over wages. The only loss properly imposed on him is the loss of the bonus, which he earns by excellence of workmanship, but which the commercial management is not able to pay because of a bad state of the market or other causes beyond his power and control.

The slowly-increasing number of firms practicing profit-sharing with success, and the practically unanimous approval of the plan by the political economists of England and America, indicate its probable wider adoption. It appeals to evident motives of self-interest and ambition in the workman, and its general effect has been not to diminish, but to increase somewhat, the net profits of the employer.

See *Die Gewinbetheiligung* von Victor Böhmert, 1878 (transl. into French, 1888); an essay with the same title by Dr. H. Frommer, 1886; *Profit-sharing* by Sedley Taylor, 1884; *History of Co-operation in the United States* by Graduates of Johns Hopkins Univ. 1888; *Sharing the Profits* by Mary W. Calkins, A.M.; and *Profit Sharing between Employer and Employé* by N. P. Gilman, Boston 1889, now the standard work in English on the subject. Its information and argument on profit-sharing are supplemented in a work by the same author to appear 1891 on *Socialism and the American Spirit.*

PROFLIGATE, a. *prŏf′lĭ-gāt* [L. *profligātus*, cast down, miserable—from *pro*, forward; *fligo*, I strike]: lost to principle, virtue, or decency; shameless in vice; abandoned; dissolute: N. an abandoned man; one who has lost all regard to virtue or decency. PROF′LIGATELY, ad. *-lĭ*. PROF′LIGATENESS, n. *-nĕs*, or PROF′LIGACY, n. *-gă-sĭ*, an abandoned course of life; shameless dissipation.—SYN. of 'profligate, a.': abandoned; corrupt; dissolute; vitiated; wicked; vicious; shameless.

PROFLUENT, a. *prŏ′flô-ĕnt* [L. *pro′fluens* or *profluen′tem*, flowing—from *pro*, forward; *fluo*, I flow]: flowing forward or down, as a stream.

PROFOUND, a. *prō-fownd′* [F. *profond*, profound—from L. *profundus*, deep—from *pro*, forward; *fundus*, the bottom]: far below the surface; not superficial or obvious; deep in knowledge or skill; intense; abstruse; very humble or lowly; in *OE.*, having deep or hidden qualities: N. the deep; the sea or ocean; an abyss. PROFOUND′LY, ad. *-lĭ*, deeply; with deep insight; with deep concern. PROFOUND′NESS, n. *-nĕs*, the quality of being profound. PROFUNDITY, n. *prō-fŭnd′ĭ-tĭ* [F. *profondité*]: depth of knowledge or skill; profoundness.

PROFUSE, a. *prō-fūs′* [L. *profūsŭs*, extravagant, profuse—from *pro*, forth; *fūsus*, poured; *fundo*, I pour: It *profuso:* OF. *profus*]: pouring forth abundantly; liberal to excess; exuberant; lavish. PROFUSE′LY, ad. *-lĭ*, lavishly; with exuberance. PROFUSE′NESS, n. *-nĕs*, great abundance; extravagant expenditure; exuberant plenty. PROFU′SION, n. *-fū′zhŭn* [F.—L.]: lavishness; rich abundance.—SYN. of 'profuse': extravagant; prodigal; lavish; exuberant; bountiful; liberal; unstinted; overbounding.

PROG, v. *prŏg* [Dan. *prakke*, to get by importunity; *prakker*, a beggar: prov. Ger. *prachern*, to beg: also referred to L. *proco*, I ask, I demand]: in *OE.*, to use all endeavors to get or gain; to go a-begging; to procure by a beggarly trick: N. in *vulgar use*, provisions of any kind; victuals. PROG′GING, imp. PROGGED, pp. *prŏgd*.

PROGENY, n. *prŏj′ĕ-nĭ* [L. *progen′ĭes*, race, family; *progenĭtor*, an ancestor; *progenĭtus*, brought forth—from *pro*, forth; *gigno*, I beget: It. *progenitore;* OF. *progeniteur*, a progenitor]: offspring; race; descendants; applied chiefly to the human race. PROGENITOR, n. *prō-jen′ĭ-tėr*, a forefather; the founder of a family.

PROGLOTTIS, n. *prō-glŏt′tĭs*, plu. PROGLOTTIDES, *prō-glŏt′tĭ-dēz* [Gr. *pro*, for; *glōtta*, the tongue]: the generative segment or joint of a tape-worm.

PROGNATHOUS, a. *prŏg-nā′thŭs*, or PROGNATHIC, a. *prŏg-năth′ĭk* [Gr. *pro*, before; *gnathos*, the cheek or jaw bone]: having prominent or projecting jaws, as in the negro and Hottentot. PROGNATHISM, n. *prŏg′nă-thĭzm*, projection of the lower jaw.

PROGNOSIS, n. *prŏg-nō'sĭs* [Gr. *prognōsis*, foreknowledge—from *pro*, before; *gnōsis*, knowledge; *gignōskō*, I know]: in *med.*, opinion or decision of the physician regarding the probable course and issue of a disease. The physician is guided to his decision by his knowledge of the usual course of the disease; and as some diseases almost always end in recovery, and others almost invariably terminate fatally, the final result may often be predicted with confidence. In forming a prognosis, the physician must consider not only the natural history of the individual disease, but the patient's peculiar constitution or temperament, the age, sex, mode of life, previous state of health, etc. In general, the word indicates foreknowledge. PROGNOSE, v. *prŏg-nōs'*, to ascertain the nature and seat of a disease from a consideration of its signs and symptoms. PROGNOS'ING, imp. PROGNOSED', pp. *-nōst'*. PROGNOSTIC, a. *prŏg-nŏs'tĭk* [Gr. *prognōstĭkŏs*, having foreknowledge]: foreshowing; indicative: N. something which foreshows; a sign; an omen; a symptom from which an opinion of the nature of a disease is formed. PROGNOSTICATE, v. *prŏg-nŏs'tĭ-kāt*, to forebode; to indicate by present signs, as a future course or event; to foretell; to predict. PROGNOS'TICATING, imp. PROGNOS'TICATED, pp. PROGNOS'TICATOR, n. *-kā-tėr*, one who prognosticates. PROGNOS'TICA'TION, n. *-kā'shŭn*, the act of predicting a future course or event by present signs; a foretoken.—SYN. of 'prognostic, n.': token; sign; omen; indication; presage; symptom; foretelling; prediction;—of 'prognosticate': to augur; signify; predict; foretell; foreshow; foretoken; forebode; betoken; presage; prophesy.

PROGRAM, n. or PROGRAMME, n. *prō'grăm* [F. *programme*—from Gr. *program'ma*, a public notice posted up—from *pro*, before; *graphō*, I write: It. *programma*]: an outline or brief explanation of the order and subjects of any entertainment or public ceremony; a preliminary sketch.

PROGREDE, v. *prō-grēd'* [from L. *progredior*, to advance]: in *astron.*, to reach the apsis in a disturbed orbit sooner than the hypothesis of an undisturbed orbit requires: see PERTURBATIONS.

PROGRESS, n. *prŏg'rĕs* or *prō'grĕs* [F. *progrès*—from L. *progressus*, a going forward, an advance—from *pro*, forward; *gressus*, a step, a course; *gradi*, to go: It. *progresso*]: a moving or going forward; advancement; procession; improvement, either intellectual or moral; passage from place to place, as a royal progress: V. *prō-grĕs'*, to move or go forward; to proceed; to make a circuit through; to advance in any sense; to make improvement. PROGRESS'ING, imp. PROGRESSED', pp. *-grĕst'*. PROGRESSION, n. *-grĕsh'ŭn* [F.—L.]: the act of moving forward; regular and gradual advance in any sense; improvement; a proportional and regular increase or decrease in numbers or magnitudes—applied to *arith.* and *geom.* respectively (see below): in *music*, a regular succession of chords, or their movement in harmony (see below). PROGRES'SIONAL, a. *-ăl*, that is in a state of advance. **PROGRESS'IVE**, a. *-grĕs'ĭv*, moving forward; advancing; improving. **PROGRESS'IVELY**, ad. *-lĭ*, by gradual steps or regular course. **PROGRESS'IVENESS**, n. *-nĕs*, state or quality of being progressive; state of improvement. TO REPORT PROGRESS, in *parliamentary language*, a phrase which denotes the conclusion of the consideration and passing of the clauses of a bill until a future day to be named.—SYN. of 'progress, n.': course; procession; passage; advancement; progression; motion forward; proficiency; advance; increase; improvement.

PROGRES'SION, in Arithmetic: succession, according to some fixed law, of one number after another. A series of numbers so succeeding one another is said to be 'in progression.' P. is of various kinds, but the three forms most frequent are *Arithmetical P.* (q.v.), *Geometrical P.* (q.v.), and *Harmonical P.* The conditions of the harmonical P. of a series are frequently stated as follows: *three numbers are in harmonical P. when the first has to the third the same ratio that the excess of the first over the second has to the excess of the second over the third*, i. e., a, b, c are in harmonical progression when $a : c :: a-b : b-c$: but a much simpler conception of it is obtained by means of one of its properties, viz., that if the terms of a harmonical series be inverted, they form a series in arithmetical P.; thus, 1, 2, 3, 4, 5, 6, etc., is an arithmetical P.; and 1, $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, etc., is a harmonical P.; 1, $\frac{1}{2}$, 0, $-\frac{1}{2}$, -1, etc., is an arithmetical P.; and 1, 2, ∞ (infinity), -2, -1, etc. is a harmonical P. This series is important principally in connection with the theory of music, in determining the length of the strings of instruments: see MUSIC.

PROGRES'SION, MUSICAL: regular succession of chords or movement of the parts of a musical composition in harmony, where the key continues unchanged: where a new key is introduced, it is not P., but Modulation (q.v.). Musical compositions move from note to note either by degrees, when the interval does not exceed, or by skips where it does not exceed a whole tone. Motion in music of two parts is of three kinds: oblique, when one part repeats or holds on the same note, while the other moves up or down; direct, when both parts move in the same direction; and contrary, when one moves up, and the other down. In P. from chord to chord, it is in general desirable to retain every note common to both chords in the same part in which it appeared in the first chord, and to assign every new note to that part in the second chord nearest to it. There are certain chords which require to be followed by certain others in order to resolve them (see RESOLUTION); and there are certain progressions which must in ordinary cases be avoided, particularly consecutive fifths and consecutive octaves, though the latter is admissible when employed to strengthen a part.

PROG'RESS OF TITLES, in Scotch Law: series or chain of conveyances by which a proprietor of lands establishes his right to property: see **SALE OF LAND**.

PROHIBIT, v. *prŏ-hĭb'ĭt* [L. *prohib'ĭtus*, held back, restrained; *prohibĕo*, I prevent—from *pro*, before; *habeo*, I have, I hold: F. *prohiber*]: to forbid; to debar; to hinder; to interdict by authority. PROHIB'ITING, imp. PROHIB'ITED, pp. PROHIB'ITER, n. *-ĭ-tér*, one who prohibits. PROHIBITION, n. *prŏ'hĭ-bĭsh'ŭn* [F.—L.]: act of forbidding or interdicting (also see PROHIBITION OF THE LIQUOR TRAFFIC). In *law*, a writ by a superior to an inferior court to stay proceedings in a cause; a declaration to disallow some action. PRO'HIBI'TIONIST, n. *-ŭn'ĭst*, in politics, one who advocates the entire prohibition by law of the sale or manufacture of intoxicating drink; in *commerce*, one who is favorable to the imposition of such heavy duties on certain goods as almost to amount to a prohibition of their importation or use. PROHIBITIVE, a. *prŏ-hĭb'ĭ-tĭv*, or PROHIB'ITORY, a. *-tér-ĭ*, forbidding; tending to prohibit. PROHIBITIVE DUTY, duty so high as practically to prevent import (see FREE TRADE: TARIFF).—SYN. of 'prohibit': to debar; hinder; exclude; preclude; forbid; prevent: interdict; disallow; inhibit.

PROHIBI'TION OF THE LIQUOR TRAFFIC: forbidding by law of the sale or manufacture of alcoholic liquors as a beverage. The term P. in its political sense has come to denote a definite policy which seeks to suppress, by legislative action, the sale and the manufacture for sale of all intoxicating liquors for other than medicinal, mechanical, chemical, and sacramental purposes. In the United States, where the term is most in use, it generally refers to such a policy when applied to an entire state or territory, the term 'no-license' indicating the same policy as applying to subdivisions of a state. Such a policy is secured for a state either by statutory law enacted by the legislature, as in the case of the Maine Law 1851, or, as in the case of Kansas, by an amendment to the state constitution, which is voted on directly by the people, giving rise to 'amendment campaigns.' No-license, or local P., is secured directly by the vote of the citizens of the town, city, or county, under local option laws enacted by the legislature; or, in the absence of such laws, it is in some states secured indirectly by election of no-license commissioners of excise pledged to refuse all applications for license.

History of Prohibition.—The P. movement was the fifth in a series of well-defined steps through which the temperance movement passed in the first half of the nineteenth century. (See TEMPERANCE MOVEMENT.) The initial force came from General James Appleton (1786–1862, b. Mass.). In 1832 he advocated this policy in a series of letters in the Salem *Gazette*. Removing to Portland, Me., 1833, and being elected to the Me. legislature 1836, he brought in a report, as chairman of a legislative committee, in favor of 'absolutely prohibitory' law. The movement thus begun led to the adoption by the legislature 1846 of such a law, but in what proved to be a defective form. In 1851 Neal Dow drafted what has become known as the Maine Law, the chief difference between it and the law of 1846 being the addition of a search and seizure clause. The Maine Law was enacted by the legislature by a vote of 18 to 10 in the senate and 86 to 40 in the house, receiving the governor's approval 1851, June 2. It became almost at once an important political issue. In 1856, by a coalition of all the forces opposed to it, it was repealed and a rigid license law enacted in its stead. Two years later the question was submitted to a vote of the state, and the Maine Law being endorsed by a vote of 28,864 to 5,912, it was re-enacted by the legislature the same year, and has continued in force, with many amendments, to the present day. 1884, Sep., the principle of the law was embodied in an amendment to the state constitution, and, on submission to popular vote, was adopted by a vote of 70,783 to 23,811. The Maine Law empowers towns and cities to appoint agents for sale of liquor for medicinal and mechanical uses. These agents are supplied by a state commissioner with liquors at not over six per centum above cost. Record is kept of all sales and reported annually to the gov. Each agent is paid a salary, having no interest in the profits of sales, and giving a bond for $600 to sell only in accordance with the law. A violation of the law involves a penalty of $20, forfeiture of the bond, and revocation of the agent's authority. The illegal manufacture and sale of liquor involves a penalty of $1,000 fine and two months' imprisonment. The illegal sale involves a fine of $50, and 30 days' imprisonment for first offense; for keeping a tippling house, or keeping liquor for unlawful sale, a fine of $100, and 60 days' imprisonment. On the sworn complaint of any person competent to be a witness in a civil suit, a police or municipal judge may issue a warrant for search and seizure; except that no warrant shall issue for search of a dwelling-house unless the judge is satisfied by the evidence furnished by complainant that liquor is sold there contrary to law.

The enactment of the Maine Law led speedily to efforts for similar action in other states and 1854–56 similar laws were enacted in the following states: Vt., Conn., R. I., Mich., Mass., Ill., Iowa, Ind., Neb., Tex., N. Y., Penn. In a number of these states the law was soon declared unconstitutional by the courts, the reason for this lying chiefly in the fact that liquor already in possession prior to the law and being legally recognized as property, was affected by the law the same as liquor afterward manufactured, the law having thus a retroactive effect. In Vt. the law continues in force to the present. In Conn. it continued in force until 1872, when it was superseded with license and local option. In Mass. the law was repealed in 1868, re-enacted 1869 (a clause being added the same year exempting malt liquors), and 1875 superseded with a license law to which, 1881, a local option law was added. In R. I. the law was repealed 1863, re-enacted 1874, again repealed 1875; in 1886 the principle of the law was embedded in the constitution by a vote of 15,113 to 9,230, and removed 1889 by a vote of 28,315 to 9,956. The prohibitory law in Mich. was repealed with a tax law 1875.

Effects of the Maine Law.—These laws all were modeled more or less closely after the Maine Law. Their effects are matters of considerable dispute. Not only did these effects vary in different states, but they varied in the same state in different years, and in the same year in different localities. One important fact, however, must be borne in mind—that the enactment of the law in these states was immediately followed by the fevered political conflict concerning slavery out of which developed civil war. The republican party, born of this agitation, arose 1854, became national 1856, and elected Lincoln in 1860. In no states was the slavery agitation more intense and exclusive of all less urgent issues than in these same New England states in which P. began its experiments. Despite this disadvantage, the results of the law as indicated by official testimony and figures were in some instances very striking. In 1874 a commission, consisting of F. Davis and J. M. Manning, was appointed by the gov.gen. of Canada to investigate the results of P. in the United States. The commission's report deals chiefly with Me. and Mass.; and while no conclusion is drawn by the commission, the evidence given is valuable and decisive on at least one point; namely, that wherever and whenever the law was enforced, the diminution of crimes of violence and of intemperance was marked. The extent to which it was enforced in Me. at that time (1874) is thus stated by Judge Woodbury Davis, for ten years a member of the supreme court of the state: 'Of our 400 cities and towns, making the estimates below what I believe the facts would justify, I am satisfied that in more than 100 the law prevents any sale of liquor whatever for a beverage. In at least 200 of them it is sold only in the way that Dr. Bacon calls "on the sly," just as in the same towns there are persons guilty of lewdness and other crimes. In most of the other 100 towns liquors are sold probably without much restraint.'

The effect on the manufacture of liquor has been more decisive. For a number of years, by the reports of the commissioner of internal revenue, there has been no liquor brewed or distilled in Maine. In Mass. the law seems to have been generally admitted to be a 'dead letter' during the war period. In 1867 a determined effort was made to enforce it, and this resulted in its repeal early in 1868. The repeal of the law was, however, accompanied with a remarkable increase in crime, vagrancy, and drunkenness. The increase in the commitments to jail, to the House of Correction, and to the House of Industry, of drunkards unable to pay their fines rose from 2,501 in six months (1867 Apr.-Oct.) to 3,170 in the corresponding six months of 1868 (Report, Board of State Charities, 1868). A comparison of the records for the last six months of the two years discloses an increase as follows for the latter year in Boston:

	Increase.
Criminal arrests	248
Station-house lodgers . . .	3,838
Drunkenness and assaults .	1,363

To these facts attention was emphatically called in the annual reports 1868 of the gov., the state constable, the board of state charities, and the board of inspectors of the state prison, and the increase was assigned by all to the repeal of the prohibitory law.

In Conn. the total commitments to jail for drunkenness and common drunkards, for the seven years preceding and the seven years following the repeal of the prohibitory law, were as follows:

SEVEN YEARS UNDER PROHIBITORY LAW.		SEVEN YEARS UNDER LICENSE AND LOCAL OPTION.	
1866	537	1873	2,125
1867	484	1874	2,044
1868	575	1875	2,175
1869	842	*1876	1,347
1870	1,050	1877	1,734
1871	1,290	1878	2,141
1872	1,470	†1879	1,628
	6,248		13,194

* Eight months only. † Tramp law went into effect.

Constitutional Prohibition—The beginning of the agitation for P. by constitutional amendment dates from 1878. The principal reason assigned for this method is the greater stability which the law possesses when embedded in the state constitution beyond the reach of a hostile legislature. As early as 1856 constitutional P. had been advocated, and just preceding the outbreak of the civil war the legislature of N. Y. had taken the initial step in submitting an amendment to popular vote (1860). The first success was, however, chronicled in Kansas by adoption, 1880, of a prohibitory amendment reading as follows:

'The manufacture and sale of intoxicating liquors shall be forever prohibited in the state, except for medicinal, scientific, and mechanical purposes.'

In 1881 the legislature enacted enforcing laws, which were amended 1885 and 87. In 1882 a similar amendment was adopted in Iowa by a majority of nearly 30,000. This amendment was, by reason of a technical flaw, declared void. Statutory P. was, however, enacted 1884 by the legislature. In 1883 a prohibitory amendment was voted on in Ohio, and a majority of 82,000 was registered in its favor. As the vote in its favor did not, however, equal a majority of the total vote on legislative candidates, the amendment did not become a part of the constitution. In 1884 an amendment was adopted in Me., and in 1886 an amendment was adopted by more than the required three-fifths majority (15,113 to 9,230). This series of successes was followed by a series of defeats, as follows: in Mich. (1887), in Tex. (1887), in Tenn. (1887), in Or. (1887), in W. Va. (1888), in N. H. (1889), in Mass. (1889), in Penn. (1889), in R. I. (1889). Then came two victories in N. and S. Dak. (1889), followed by three more defeats, in Wash. (1880), Conn. (1889), and Neb. (1890). The result of the voting in these 20 elections was as follows: aggregate vote for P. 1,758,895; against, 2,072,722; not voting (est.) 900,000.

The results of constitutional P. are, equally with those of the Maine Law, subject of dispute. Without citing the testimony on either side, it may be said that the efficiency of a constitutional amendment depends in great degree on the nature of the statutes enacted by the legislature for its enforcement, and the penalties assigned in them for violations. One of the most important clauses for securing enforcement of the law has been found to be the 'injunction clause' which gives to any citizen of the state the right to maintain an action against a place where liquor is sold, and upon the judgment of any court having jurisdiction finding such place a nuisance, the place may be closed as a common nuisance. This injunction clause, as it obviates the necessity for a trial by jury, is now considered an essential feature of a successful law. It exists in all the states, Kan., Iowa, Me., Vt., N. Dak., and S. Dak., where P. has endured. Its absence in some other states has been attended with comparative failure of the law. Another cause of local weakness has been (as indeed is the case with any other mandatory law), the election of officials not in sympathy with the law and who have refused to enforce it. Frequent instances of this kind, especially in the larger cities of Me., Kan., and Iowa, gave occasion to the formation of a distinct party whose object is to secure national and state P., and the election of officials in sympathy with it. (See POLITICAL PARTIES).

Argument.—So far as the legal basis for P. is concerned, in the United States at least, there seems no longer any room for debate. The U. S. supreme court has spoken at least twice on the matter, in each case upholding the right of the state to regulate, restrain, or prohibit the traffic (see *License Cases*, 5 How. 504; also Mugler *v*. Kansas, and Kansas *v*. Ziebold and Hagelin, Oct. term, 1887). The right of the state to prohibit the sale, manufacture for sale, and even manufacture for one's own use, was sustained on the ground that it is a legitimate exercise of the police powers, in order to guard the public health, the public morals, and the public safety. In the Mugler cases the court expresses itself as follows: If, therefore, a statute purporting to have been enacted to protect the public health, the public morals, or the public safety, has no real or substantial relation to those objects, or is a palpable invasion of rights secured by the fundamental law, it is the duty of the courts to so adjudge, and thereby give effect to the constitution.

Keeping in view these principles as governing the relations of the judicial and legislative departments of government with each other, it is difficult to perceive any ground for the judiciary to declare that the prohibition by Kansas of the manufacture or sale within her limits of intoxicating liquors for general use there as a beverage, is not fairly adapted to the end of protecting the community against the evils which confessedly result from the excessive use of ardent spirits. There is here no justification for holding that the state, under the guise merely of police regulations, is aiming to deprive the citizen of his constitutional rights; for we cannot shut out of view the fact, within the knowledge of all, that the public health, the public morals, and the public safety may be endangered by the general use of intoxicating drinks; nor the fact, established by statistics accessible to every one, that the disorder, pauperism, and crime prevalent in the country, are in some degree at least traceable to this evil.

If, therefore, a state deems the absolute prohibition of the manufacture and sale within her limits of intoxicating liquors for other than medical, scientific, and manufacturing purposes to be necessary to the peace and security of society, the courts cannot, without usurping legislative functions, override the will of the people as thus expressed by their chosen representatives.

Bibliography.—Pitman's *Alcohol and the State;* Finch's *People versus The Liquor Traffic;* Wheeler's *Prohibition: the Principle, the Policy, and the Party;* Fernald's *Economies of Prohibition; Cyclopædia of Temperance and Prohibition;* Aike's *Biblical Reason why Prohibition is Wrong;* Dorchester's *Liquor Problem in All Ages;* Blair's *Temperance Movement; One Hundred Years of Temperance;* Hargreave's *Our Wasted Resources.*

PROJECT, n. *prŏj'ĕkt* [L. *projectus*, stretched out, prominent—from *pro*, forward; *jactus*, thrown or cast; *jacĕrĕ*, to throw: It. *progettare ;* F. *projeter*, to scheme or contrive]: a scheme; a design or plan; a thing intended or devised; a contrivance: V. *prō-jĕkt'*, to cast or throw forward; to extend beyond something else; to jut out; to scheme; to contrive; to draw or exhibit. PROJECT'ING, imp.: ADJ. jutting out; prominent. PROJECT'ED, pp. PROJECT'OR, n. *-ĕr*, one who projects or schemes; one who forms schemes or designs; by way of *disparagement*, one whose schemes are impracticable. PROJEC'TION, n. *-shŭn* [F.—L.]: act of throwing forward; a part jutting out; design of something to be executed; the representation of any object or surface made on a plane by straight lines; a plan (see below): a scheme; act of scheming; in *alchemy*, the casting in of the powder which is to convert the prepared matter into gold. PROJEC'TILE, a. *-tĭl* [F.—L.]: impelling forward; given by impulse: N. a body thrown or cast, and still in motion through the air, as a stone from the hand, or a ball from a gun (see PROJECTILES, THEORY OF). PROJEC'TURE, n. *-tūr* [L. *projectūra*, a projection in buildings]: in *arch.*, a jutting out beyond the main line or surface—applied to the prominence which the moldings and members have beyond the plane of a wall or column. PROJECTIONS OF THE SPHERE, delineations of the surface of the sphere on a plane, made according to definite laws, and furnishing the means of constructing maps and charts (see PROJECTION, below).—SYN. of 'project, n.: plan; scheme; design; purpose; intention; contrivance;—of 'project, v.': to throw; throw out; cast forward; jut out; shoot beyond; scheme; form; contrive.

PROJEC'TILES, THEORY OF: scientific statement of the path or *trajectory*, as it is called, of a body projected into space in a direction inclined to that of gravitation. A body thus projected is acted upon by two forces, *the force of projection*, which, if acting alone, would carry the body onward for ever in the same direction and at the same rate; and *the force of gravity*, which tends to draw the body down toward the earth. The force of projection acts only at the beginning of the body's motion; the force of gravity, on the contrary, continues to act effectively during the whole time of the body's motion, drawing it further and further from its original direction, and causing it to describe a curved path, which, if the body moved in a vacuum, would be accurately a parabola. This is seen in fig. 1, in which A represents the point from which the body is projected (suppose the embrasure of a fort); AB the direction of projection (horizontal in this instance); A1 the distance which would be passed over by the projectile in unit of time if gravity did not act; 1—2, the distance which would similarly be described in second unit of time; 2—3, 3—4, etc., the distances corresponding to the third, fourth, etc. units of time—all these distances being necessarily equal, from the impulsive nature of the force of projection; A1', again, represents the distance which the projectile would fall under the action of gravity alone in the first unit of time; 1′—2′ the distance due to gravity in the second unit of time; 2′—3′ the distance due to the third unit, etc., the distances A1′, A2′, A3′, etc., being in the proportion of 1, 4, 9, etc. (see FALLING BODIES); hence, by the well-known principle of the *Composition of Forces and Velocities* (q.v.), we find at once, by completing the series of parallelograms, that at the end of the first unit of time the body is at *c*, at the end of the second at *b*, at the end of the third at *e*, etc. Now, as the lines 1′*c*, 2′*b*, 3′*e*, etc. increase as the numbers 1, 2, 3, etc., and the lines A1′, A2′, A3′, etc. as the numbers 1^2, 2^2, 3^2, it follows that the curve A*cbe* is a Parabola (q.v.). As, by the second law of motion, each force produces its full effect undisturbed by the other, it follows that the projectile reaches *f* in the same time as it would, without being projected, have taken to fall to 4′. A greater velocity of projection would make it take a wider flight; but at the end of four seconds, it must still be at some point in the same horizontal line—at *g*, for example.

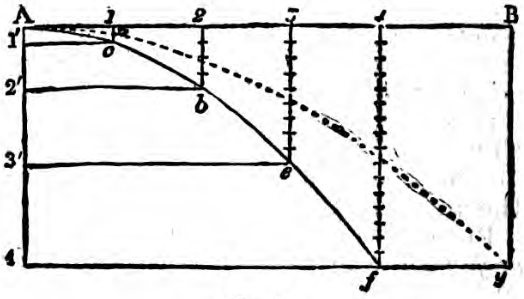


Fig. 1.

To determine exactly the motion of a projectile, and to find its range, greatest altitude, and time of flight, it is necessary to examine its nature more technically—for which some slight knowledge of algebra and trigonometry is requisite. Let the body in this instance be projected obliquely to the direction of gravity, from the point A (fig. 2) in the direction AT, and let the velocity of projection *v* be sufficient, if gravity were not to act, to carry it to T in *t* units of time, and let the force of gravity, if allowed to act on it at rest, carry it to G in the same time; then, as before, the body, under the action of both forces, will be found at P (which is found by completing a parallelogram of which AT and AG are the sides) at the end of *t* units of time, having fallen through a distance equal to TP (not at once, but in a constant succession of minute deflections, as indicated in fig. 1) in that time. Let *t* represent the time of flight, *v* the velocity due to projection, *g* the accelerating force of gravity, and let A be the angle of elevation TAB; then AT $= vt$, TP $= \frac{1}{2}gt^2$, TM $= vt \sin. A$; and consequently PM (or y) $= vt \sin. A - \frac{1}{2}gt^2$ (I.), and AM (or x) $= vt \cos. A$. Now, if we find from the last two equations the values of t, and equate these values, we obtain, by an easy algebraic process, the equation $y = x \tan. A - \frac{gx^2}{2v^2 \cos.^2 A}$; and if the height through which the body must fall to acquire a velocity equal to the velocity of projection be called h, then $v^2 = 2g \,.\, h$, $h = \frac{v^2}{2g}$, $4h = \frac{2v^2}{g}$, and $\frac{1}{4h} = \frac{g}{2v^2}$, substituting which in the equation, we obtain $y = x \tan. A - \frac{x^2}{4h \,.\, \cos.^2 A}$ (II.), as the equation to the path of a projectile, where x is the horizontal distance, and y the corresponding height above the level of the point of projection. Suppose, now, that we wish to find the *time of flight* on the horizontal plane, it is evident that at the end of its flight the projectile will be at B, and y will be equal to zero; hence, putting $y = o$ in equation I., we obtain $t = \frac{2v \sin. A}{g}$. The *range* or distance AB is similarly found by putting $y = o$ in equation II., when x is found to be equal to $4h \sin. A \cos. A$, or $2h \sin. 2A$. The ***greatest altitude*** is evidently the point which the projectile has attained at the end of half the time of flight, or after it has traversed half its horizontal range, hence, by putting $x = 2h \sin. A \cos. A$ in equation II., or $t = \frac{v \sin. A}{g}$ in equation I., we obtain $y = h \sin.^2 A$. A slight examination of the expression for the range will show that it is greatest when the body is projected upward at an angle of 45° to the horizon, and that a body projected at a

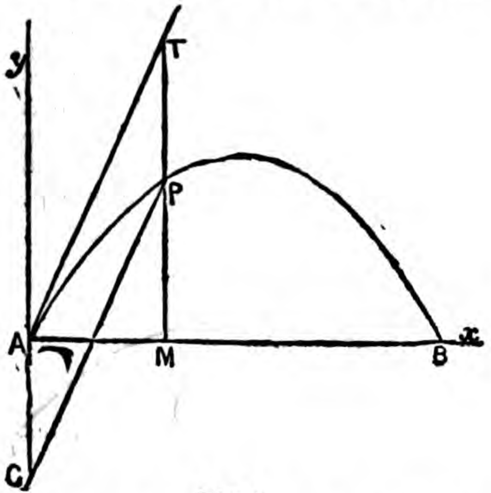


Fig. 2.

greater angle than 45° has the same range as one projected at an angle correspondingly less (fig. 3).

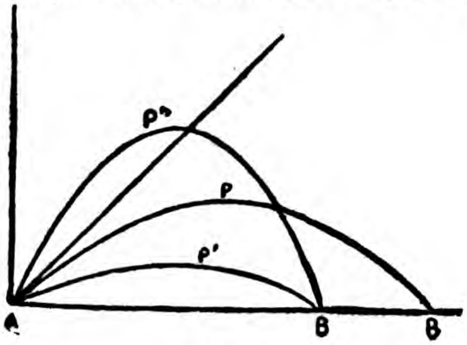


Fig. 3.

These results, however, do not correspond to the actual circumstances of the case, except when the projectile possesses considerable density and its motion is slow, for in all other cases, the resistance of the air, which increases in a rapid ratio with the velocity of the projectile, causes it to deviate considerably from a parabolic orbit, especially during the latter half of its course (fig. 4). The problem of the motion of a projectile thus complicated becomes of considerable difficulty; partly because our knowledge of the law of resistance of the air is imperfect (it was supposed by Newton to be proportioned to the square of the velocity), and partly because the law varies with every minute change in the form, size, and density of the body projected, so that, under these circumstances, the beautiful and simple theory sketched above is practically useless. The chief illustrations of the theory of projectiles are the motion of missiles thrown by the hand, or arrows impelled from a bow, in both of which cases the resistance of the air is comparatively ineffective, the velocity being small: in the far more important case of ball-practice, whether with firearms or heavy ordnance, its effects are so powerful as to render the laws of gunnery mere deductions from experience. See **Rifle and Rifled Ordnance: Gunnery.**

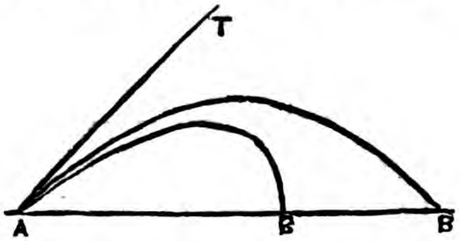


Fig 4.

PROJECTION, in Drawing: representation on any surface of objects or figures as they appear to the eye of an observer. It thus includes Perspective (q.v.), and is most simply illustrated by the shadow of an object thrown by a candle on a wall; the shadow being the P. and the place of the light the position of the eye. The theory of projections is of great importance, both in mathematics and in geography; being, in the former case, entirely general in its application; while in the latter the P. of the sphere only is required. Projections of the sphere are of various kinds, depending on the position and distance of the eye from the sphere, and the form of the surface on which the P. is thrown; thus, we have the *orthographic, stereographic, globular, conical,* and *cylindrical or Mercator's* projections; for all which, see MAP. Another P. frequently employed is the *gnomonic.* In the gnomonic P. the eye is supposed to be at the centre of the sphere, and the surface on which the P. is thrown is a plane surface which touches the sphere at any one point (called the *principal point*). It is evident that a map constructed on the gnomonic projection is sensibly correct for only a circular area whose circumference is at a small angular distance from the principal point. From the position of the eye in the gnomonic P. it follows that all great circles, or portions of great circles, of the sphere are represented by straight lines, for their planes pass through the eye. The distance of two points on the sphere, when measured along the surface, is least if measured along a great circle; and as the distance of the projections of these points on the plane is represented by a straight line, which is the shortest distance between two points on a plane, this P., if employed in the construction of mariners' charts, would at once show the shortest course. Maps of the earth's surface have been projected by the gnomonic method, the surface of P. being the interior surface of a cube circumscribing the sphere, and the complete series consequently amounting to six maps; but it is not fitted for the construction of maps of large portions of the earth's surface. The gnomonic P. is named from its connection with the mode of describing a gnomon or Dial (q.v.). The orthographic and stereographic projections were used by the Greek astronomers in construction of maps of the heavens; the former, or *analemma,* being the best known and most used. The stereographic, called *planisphere* by the Greeks, is said to have been invented by Hipparchus, and the gnomonic is described by Ptolemy. The others are modern.

In Mathematics, the theory of projections is general in its application, and has been employed in recent years to generalize the ancient geometry, and as a powerful aid to algebra. Its basis is the investigation and determination of those properties which, being true of a figure, are true also of its projections, such properties being necessarily dependent, not on the 'magnitude,' but on the 'position' of the lines and angles belonging to the figure. These properties are generally denominated *projective properties:* e. g., the three conic sections, the parabola, ellipse, and hyperbola, are merely various projections of a circle on a plane, and all 'positional' properties of the circle are at once, by this theory, connected with similar properties of the three conic sections. The theory is largely employed also in demonstrative mechanics.—See, further, Mulcahy's *Modern Geometry*, Salmon's *Conic Sections*, Monge's *Géométrie Descriptive*, Poncelet's *Propriétés des Figures Projectives*, and Poisson's *Traite de Mécanique.*

PROLAPSE, n. *prō'lăps'*, or PROLAPSUS, n. *prō-lăp'sŭs* [L. *prolapsus*, slidden or fallen down—from *pro*, forward; *lābor*, I slide]: in *surg.*, protrusion or falling down of a part, especially the gut or womb, so as to be partly external and uncovered (see PROLAPSUS ANI: PROLAPSUS UTERI). PROLAPSE, v. to fall down or out; to protrude. PROLAP'SING, imp. PROLAPSED', pp. *-lăpst'.*

PROLAP'SUS A'NI: frequent affection of the termination of the intestinal canal, consisting in an eversion of the lower portion of the rectum, and its protrusion through the anus. It may depend on a naturally relaxed condition of the parts, as in infancy, or may be caused by violent straining, in cases of costiveness, piles, etc. Whenever it occurs, the parts should be washed, and, if possible, replaced by careful pressure with the hand; and if they do not easily return, the forefinger should be oiled, and pushed up into the anus, and it will convey the protruded intestine with it, after which the patient should retain the recumbent position for some hours. If it cannot be returned by the above means, surgical assistance should be at once sought. In order to remove the tendency to P., the patient should regulate his bowels to avoid costiveness, should sponge the parts after every evacuation with cold water or soap and water, and if necessary, use astringent injections, e.g., a weak solution of sulphate of iron, one grain to the ounce. Dr. Druitt (in *Surgeon's Vade Mecum*) recommends a plan suggested first by Dr. M'Cormac—that when the stools are passed, the skin near the anus should be drawn to one side with the hand, so as to tighten the orifice. If, after adoption of these means, the bowel continues to descend, certain surgical means must be resorted to, as destroying a small portion of the relaxed mucous membrane by application of nitric acid, or pinching up a few folds of the protruded membrane with the forceps, and applying ligatures to them.

PROLAP'SUS UTERI (known also as PROCIDENTIA OR DESCENSUS UTERI, by writers on the diseases of women; and as 'falling of the womb,' or 'bearing down,' among non-professional persons): essentially a depression of the womb below the natural level in the pelvis. It is a frequent affection, and is most frequent in women beyond middle age who have borne large families. It has, however, occurred in women who have not borne children, in virgins, and even (though very rarely) in children. It may occur in every degree, from the case in which the mouth of the womb is a little lower than its natural level, to that in which the womb itself projects externally and forms a protruding tumor as large as a melon. In the latter case, it displaces by its traction the bladder, rectum, and other important structures. The prolapse is termed *imperfect* as long as there is no external protrusion, and *perfect* when the womb is protruded externally. The causes of these different degrees of prolapse are the same, and the symptoms differ only in intensity. The immediate causes are, according to Sir C. Clarke: (1.) Relaxation of the ligaments of the uterus; (2), a want of due tone in the canal leading from the uterus to the external surface. The latter is probably the chief cause. After many child-bearings, it remains dilated, and its walls lose their resisting power. Similar effects result from repeated uterine hemorrhage, leucorrhea (popularly known as the *Whites*), and general debility. Under these conditions, a very slight downward force will depress the womb; and this force is supplied by the increased weight of the organ itself, if the patient sit up or walk soon after delivery, by violent vomiting or straining (when the bowels are constipated), by the endeavor to lift heavy weights, etc.

The symptoms arise partly from pressure of the womb on other organs, partly from simultaneous displacement of adjacent parts (as the bladder, rectum, etc.), and partly from reflex action (see NERVOUS SYSTEM). Patients with only slight displacement usually complain of a sensation of fulness in the pelvis, of weight and bearing down, of dragging from the loins, often amounting to pain in the back, these symptoms being aggravated when the upright position is assumed. Strangury (q.v.) is occasionally present, and if the womb descend low or protrude, there is always more or less difficulty in evacuating the contents of the bladder and rectum. The digestive organs soon become affected through reflected nervous influence. It is remarkable that the general health is often much worse in those cases in which there is slight depression, than in those in which the prolapse is complete, and the womb forms an external tumor.

The treatment varies with the degree of displacement. In the milder cases, medicine should be administered with the view of giving tone to the mucous membrane of the relaxed canal: in the severe cases, mechanical support is requisite. In comparatively mild cases, prolonged rest in the horizontal position should be enforced, and cold water (from half a pint to a pint) should be slowly injected, night and morning into the canal leading to the uterus, by means of an elastic bottle, the patient being in the recumbent position as she receives the injection. If this treatment is insufficient, astringent injections, e.g., decoction of oak-bark or of galls, or a solution of alum (an ounce to the pint of water), should be tried. If, however, there is any congestion or inflammation of the parts, astringents must be avoided. In a case of complete prolapse, the first duty of the practitioner is to attempt to restore the womb to its natural position. It is sometimes necessary to place the patient in a warm bath, or to apply fomentations or leeches to the tumor before it can be replaced; and occasionally, irreducible cases occur, in which it may be necessary to remove the organ altogether. But suppose it returned to its position, a repetition of the prolapse has to be prevented. The ordinary method is by introduction of a pessary—an instrument of an oval or globular form, usually of box-wood, which mechanically supports the uterus in its normal position, See the works of Churchill, West, and others *On the Diseases of Women.* In some cases, a compress and bandage will afford sufficient support: in other cases a surgical operation similar to that for *Prolapsus Ani* (q.v.) is expedient.

PROLATE, a. *prō′lāt* [L. *prolātus*, carried or brought out, prolonged—from *pro*, forth; *lātus*, brought]: lengthened; extended beyond the line of an exact sphere. PROLATE SPHEROID, a spheroid elongated in the direction of its axis, generated by the revolution of an ellipse about its major axis; the opposite of an OBLATE SPHEROID, which see, under OBLATE 1. PROLATIVE, n. *prō′lă-tĭv*, in *gram.*, an infinitive joined to verbs, etc., in order to extend the predication.

PROLEGOMENA, n. plu. *prō′lĕ-gŏm′ĕ-nă* [Gr. *prolegom′ĕna*, things said first: *prolegō*, I say beforehand—from *pro*, before; *legō*, I speak]: preliminary observations; an introduction or dissertation prefixed to any work. PRO′LEGOM′ENARY, a *-nér-ĭ*, or PRO′LEGOM′ENOUS, a. *-ĕ-nŭs*, preliminary; introductory.

PROLEGS, n. plu. *prō′lĕgz* [*pro*. for, and *legs*]: abdominal feet in caterpillars which are not retained in the perfect insect.

PROLEPSIS, n. *prō-lĕp′sĭs* [Gr. *prolēpsis*, an anticipation—from *pro*, before; *lēpsis*, a seizing; *lambanō*, I take]: in *rhet.*, a figure of speech by which objections are anticipated and answered; an error in chronology, consisting in an event being dated before the actual time. PROLEP′TIC, a. *-tĭk*, or PROLEP′TICAL, a. *-tĭ-kăl*, pert. to; anticipatory; previous. PROLEP′TICALLY, ad. *-lĭ*.

PROLETAIRE, n. *prō'lĕ-tär'* [F. *prolétaire*—from L. *proletārĭŭs*, in the census of Servius Tullius, a citizen of the lowest class too poor to pay taxes—from *prōles*, offspring]: term adopted from the French by some recent German and English writers to denote one of that class of the community who depend for support on casual daily labor of the hard and low type; one of the lowest part of the lower orders. **PROLETAIRISM**, n. *prō'lĕ-tār'izm*, condition, or political influence, of the lowest orders of the community. **PRO'LETA'RIAN**, a. *-tā'rĭ-ăn*, mean; vulgar: N. one of the lowest of the people. **PRO'LETA'RIAT**, n. *-rĭ-ăt*, class or body of the proletaries. **PRO'LETAR'IES**, n. plu. *-tėr'iz* [*proletar*—a form of spelling direct from the Latin]: same as **PROLETAIRES**. **PRO'LETAR'Y**, a. of or pert. to. [In the anc. Roman use of the word *proletarius*, it was indicated that the class referred to were valuable to the state only as rearers of offspring.]

PROLIFEROUS, a. *prō-lĭf'ėr-ŭs* [L. *prōles*, offspring; *fero*, I bear or carry]: in *bot.*, producing another by budding—applied to flower-buds and leaves when an unusual development of supernumerary parts takes place, as flower-buds becoming viviparous, and leaves producing buds.

PROLIFIC, a. *prō-lĭf'ĭk*, or **PROLIF'ICAL**, a. *-ĭ-kăl* [F. *prolifique*, prolific—from L. *prōles*, offspring; *faciō*, I make: It. *prolifico*]: producing young or fruit in abundance; fruitful; productive. **PROLIF'ICALLY**, ad. *-lĭ*. **PROLIF'ICNESS**, n. *-ĭk-nĕs*, state of being prolific. **PROLIFICATION**, n. *prō-lĭf'ĭ-kā'shŭn*, generation; the growth of a second flower from the substance of the first.—SYN. of 'prolific'; generative; fertile; generating; productive; active; pregnant.

PROLIGEROUS, a *prō-lĭj'ė r-ŭs* [L. *proles*, offspring; *gero*, I bear]: producing offspring.

PROLIX, a. *prō'lĭks* [F. *prolixe*—from L. *prolixus*, long, extended—from *pro*, forth; *laxus*, wide, loose—also given as connected with *elixus*, soaked; *lĭqui*, to flow: It. *prolisso*]: extended to a great length; protracted; diffuse; tedious. **PROLIX'LY**, ad. *-lĭks'lĭ*. **PROLIX'ITY**, n. *ĭ-tĭ*, or **PROLIX'NESS**, n. *-nĕs*, the state or quality of being prolix; great length; minute detail; tediousness.—SYN. of 'prolix': diffuse; protracted: tedious; wearisome; tiresome; long prolonged; discursive; copious.

PROLOCUTOR, n. *prŏl'ō-kū'ter* [L. *prolŏcūtus*, uttered, declared—from *pro*, before; *locūtus*, spoken; *loqui*, to speak]: the speaker or chairman of a convocation. **PROL'OCU'TORSHIP**, n. *-tėr-shĭp*, the office or station of a prolocutor.

PROLOGUE, n. *prō'lŏg* [F. *prologue*, a prologue—from Gr. *prolŏgos*, a preface—from *pro*, before; *legō*, I speak]: a short piece in verse, recited before a dramatic performance or play begins; a preface: V. to introduce by formally reciting a preface. **PRO'LOGUING**, imp. **PRO'LOGUED**, pp. *-lŏgd*.

PROLONG, v. *prō′lŏng′* [F. *prolonger*, to prolong—from L. *prolongārĕ*—from *pro*, forth; *longus*, long: Sp. *prolongar*]: to lengthen or draw out in time or duration; to protract; to extend; to put off to a distant time; to extend in length or space. PROLONG′ING, imp. PROLONGED′, pp. *-lŏngd′*. PROLONG′ER, n. *-ėr*, one who prolongs. PROLON′GATE, v. *-gāt*, to lengthen or extend in space. PROLON′GATING, imp. PROLON′GATED, pp. extended in space; continued in length. PROLONGATION, n. *prō′lŏng-gā′shŭn* [F.—L.]: the act of lengthening; extension in time or space; extension of time.—SYN. of 'prolong': to continue; defer; delay; lengthen; draw out; extend; put off; postpone; procrastinate; protract.

PROLUSION, n. *prō-lô′zhŭn* [L. *prolu′sĭōnem*, a preliminary exercise—from *pro*, before; *lūsus*, play, sport; *lūdo*, I play: It. *prolusione:* F. *prolusion*]: preliminary game or trial; a preparatory exercise or trial in literary composition.

PROME, *prōm:* chief town in the dist. of Prome, province of Pegu, British Burmah, on the e. bank of the Irrawaddy river, between 65 and 70 m. n.n.w. of Rangoon, with which it is connected by railroad. It was taken by the British 1825 and 52, the Burmese making little resistance. It has suffered seriously by an inundation of the Irrawaddy, and in 1862 was nearly destroyed by fire. It has since been laid out anew with broad and straight streets. Since its incorporation as a city 1874 it has improved rapidly. It manufactures paper, silk cloths, and lacquer ware. Pop. (1881) 28,813.

PROMENADE, n. *prŏm′ĕ-nâd′* [F. *promenade*, a walk, walking—from *promener*, to walk—from L. *prominārĕ*, to drive on—from *pro*, forward, and *minārĕ*, to drive with threats; *minæ*, threats]: a walk for pleasure or show; a place for walking: V. to walk for amusement or exercise. PROM′ENAD′ING, imp. PROM′ENAD′ED, pp. PROM′ENAD′ER, n. *-ėr*, one who promenades.

PROMETHEAN, a. *prō-mē′thĕ-ăn:* pert. to *Prometheus* (q.v.), fabled in *anc. myth.* to have stolen fire from heaven, with which he quickened clay images into life: possessing the life-giving quality of that fire.

PROMETHEUS, *prō-mē′thē-ŭs* or *prō-mē′thūs* [Gr. Forethought]: in Greek myth., inventor and teacher of the arts of life: son of the Titan Iapetus and of Clymene; being brother of Atlas, Menœtius, and Epimetheus (Afterthought): or, according to other legends, son of Iapetus and Asia; or of Uranus and Clymene; or of Eurymedon and Here; being father of Deucalion, Hellen, Lykus, and Chymœrus. The theory supported by some philologists, that P. is a Greek form of *pramantha* [Skr., firestick] lacks evidence. The myth of P. is one of the oldest of Greek antiquity, being mentioned by Hesiod, and is briefly as follows:—Under the reign of Zeus, men and gods were disputing at Mecone concerning the portions of slain beasts which should be offered to the gods: P., with a view to outwit Zeus, cut up a bull, and divided it into two parts, hiding the meat and the intestines in the skin, and putting offal (the stomach, etc.) at the top; while he laid in another heap the bones, covered with fat. Zeus pointed out the unequal division, but was asked to choose, whereupon he guessed the deceit practiced, and selected the good portion; but irate at the stratagem, he avenged himself on the mortals by withholding from them the knowledge of the production of fire necessary for cooking the meat; whereupon P. stole the fire from heaven and brought it to them in a hollow fennel stalk. Zeus, to punish the mortals, caused Hephæstus to mould a virgin of rapturous beauty, Pandora (q.v.), whom Epimetheus was unwise enough (against the counsel of his bro. P.) to receive as a present from Hermes; and thus brought upon humanity, with the opening of her box, all imaginable ills that flesh is heir to. P. himself was chained to a rock, and an eagle sent to consume his liver in day-time, while Zeus caused it to grow again at night. Herakles, however, killed the eagle; and, by permission of Zeus, delivered the suffering Prometheus. Thus far Hesiod's legend. Æschylus, in his tragedy *Prometheus*, has perpetuated another review of the myth. P., according to him, is an immortal god, a friend of the human race, who does not shrink from exposing himself to peril in their behalf. He is the long-suffering hero, who, though overcome by Zeus's superior might, yet does not bend his mind. He at first assists Zeus against his own kindred, the Titans, and even opens the head of Zeus to give birth to Minerva. But when Zeus, having come to the throne, conceived evil plans against mankind, wishing to destroy them entirely, in order to create a new and better race, P. takes their side; and while taking from them the evil gift of foreseeing the future, gives them the two infinitely superior gifts of hope and of fire. He is the inventor of architecture, astronomy, writing, figures, medicine, navigation, the mystery of prophecy, the arts of working in metal, and all other arts which embellish and adorn life. For these boons conferred on the human race, he is, under Zeus's order chained to a rock in Scythia by Hephæstus, who fulfils this task reluctantly. Here he is visited by the Oceanides, by Io, who tells him of her own miserable wanderings, and by Hermes, who endeavors to find out that which only P. knows, viz., who will be the son of Zeus and his successor. Refusing to divulge this secret, he is struck by Zeus's lightning, and hurled into Tartarus, whence he re-issues after a time only to undergo new sufferings. He is now fastened to Mount Caucasus, and the eagle, an offspring of Earth and Tartarus, comes to torment him daily. Cheiron, the Centaur, at last offers himself to supply P.'s place in Hades—for on no other condition was he to be liberated than that some other immortal should offer himself in his stead. Cheiron, incurably wounded by Herakles, is accepted by

Zeus.—Other legends give varying accounts. One makes P. the creator of man out of earth and water—Zeus having, after the flood of Deucalion, ordered both him and Here to make man out of the mud left, and the winds to breathe life into them; and at Panopeus, in Phocis, a piece of that creative earth was in after times shown to the wondering multitude. It was also at his suggestion that Deucalion and Pyrrha built the vessel that bore them safely through the floods. P. had a sanctuary at Athens, and torch-races took place in his honor. Many have been the explanations of this myth; one of which is, that it is merely one of the great cycle of national fire myths, and P. a form of the sun-god—an explanation which seems instead a mistake: another, that it represents the human mind, which, in the consciousness of its own power, refuses to obey implicitly the will of Zeus: another that it embodies the first struggles between the ancient (Pelasgian) powers of nature and the awaking of the human mind, as represented by Zeus and the Olympians, etc.: another suggestion is that it is a crude and distorted symbol of pitiless law met by vicarious sacrifice. The subject is fully discussed in works on Prometheus by Welcker (1824), Weiske, Schömann, and Lasaulx (1845).

PROMINENT, a. *prŏm″ĭ-nĕnt* [F. *prominent*, prominent—from L. *promĭnens* or *promĭnen′tem*, projecting—from *pro*, before; *minērĕ*, to jut: It. *prominente*]: standing out beyond the surface or other parts; projecting; full or large, as eyes; most visible or striking; conspicuous; distinguished above others; eminent. PROM′INENTLY, ad. *-lĭ*. PROMINENCE, n. *prŏm″ĭ-nĕns*, or PROM′INENCY, n. *-nĕn-sĭ* [F.—L.]: a standing out from the surface of something; state of being prominent; protuberance.

PROMISCUOUS, a. *prō-mĭs′kū-ŭs* [L. *promis′cŭŭs*, mixed, not separate or distinct—from *pro*, forward; *miscĕo*, I mix or mingle: It. *promiscuo*]: collected together without order or distinction, as an assembly or meeting; mingled; confused; common; not restricted. PROMIS′CUOUSLY, ad. *-lĭ*, indiscriminately. PROMISCUOUSNESS, n. *-nĕs*, a state of being promiscuous.

PROMISE, n. *prŏm″ĭs* [L. *promissum*, a promise—from *pro*, forth; *missus*, sent; *mitto*, I send: It. *promessa*; F. *promesse*, a promise: Sp. *promesa*]: word pledged; declaration or engagement, more or less formal, to another; hopes; expectation: V. to assure by a binding declaration; to engage or undertake to do, or not to do: to afford hopes or expectation. PROM′ISING, imp: ADJ. affording just grounds for expectation of good; giving tokens of future good. PROM′ISINGLY, ad. *-lĭ*. PROM′ISED, pp. *-ĭst*. PROM′ISER or PROM′ISOR, n. *-ér*, one who promises. PROMISSEE, n. *prŏm″ĭs-sē′*, one to whom a promise is made. PROMISSORY, a. *prŏm″ĭs-sér-ĭ*, containing a binding declaration of something to be performed, or some engagement to be fulfilled. PROM′ISSOR′ILY, ad. *-sér″ĭ-lĭ*. PROMISSORY-NOTE, a written promise bearing the maker's signature, to pay to the bearer, or to a definite payee or order, a certain sum of money at a certain time specified, or on request, in consideration of value received by the promiser. The law concerning promissory notes is in all respects substantially the same as the law concerning Bills of Exchange (q.v.). To promise one's self, to be assured; to have strong confidence. Breach of promise: see under Breach. Promise-breach, in *OE.*, violation of a promise. Promised Land, Canaan or Palestine, as promised to Abraham and his posterity.

PROM′ISE, in Law: engagement by one party the promiser, to another party, the promisee, to do some act which shall be an advantage to the second party. It denotes often one side of a contract or agreement, either by word of mouth or in writing, which is not under seal. At common law, an action cannot be brought on a P. unless some consideration was given for it; and even if the P. be given in a sealed instrument, the laws of most of the states allow the presumption raised by the seal to be set aside by proof of lack of a consideration. A P. may be *conditional*, held binding only on the conditions specified; or it may be *implied*, held equally binding in law with a P. fully expressed. A P. in aid of crime, or against public morals, is void, as is also a P. whose fulfilment is prevented by act of the promisee or by act of God. A P. of marriage means reciprocal P., each being an equivalent for the other; accordingly, if one breaks the P., the other can sue for breach of it. See Marriage.

PROMONTORY, n. *prŏm′ŏn-tėr-ĭ* [L. *promontōrĭŭm*, a mountain-ridge—from *pro*, forward; *mons* or *montem*, a mountain: It. *promontorio:* F. *promontoire*]: a high point of land or rock projecting into the sea; a headland.

PROMOTE, v. *prō-mōt′* [L. *promōtus*, advanced, promoted —from *pro*, forward; *movērĕ*, to move: It. *promovere:* F. *promouvoir*]: to forward or advance; to contribute to the growth or progress of anything; to excite; to raise to higher rank or honor. Promo′ting, imp. Promo′ted, pp. Promo′ter, n. *-tėr*, one who promotes; an encourager. Promo′tion, n. *-mō′shŭn* [F.—L.]: the act of promoting; advancement; encouragement; preferment. The term has been applied to the granting of a degree by a university. The practice of conferring the title of doctor by authority and after examination seems to have originated in the Univ. of Bologna, in the middle of the 12th c. Degrees were at first conferred by *coöptation*, i. e., admission by the common consent of the body of doctors; but in the beginning of the 13th c., Honorius III. placed promotions under the control of the archdeacon of Bologna. Promo′tive, a. *-tĭv*, tending to promote.—Syn. of 'promote': to forward; advance; elevate; exalt; prefer; further; patronize; help; dignify; encourage.

PROMO'TION, IN THE ARMY AND NAVY: advancement of officers from grade to grade in military and naval service. As the efficiency of a service is found to be in considerable measure dependent on the system of promotion adopted, the subject has importance.

In the *army of France*, it is a common saying, that every conscript has a marshal's *bâton* in his knapsack. Speaking of the times of the Revolution, this was true, for battalions chose their chief officers from their own ranks—a conscript of one year was perhaps a lieut.col. the next, and possibly a brig.gen. the following. In the quieter recent years, however, progress is slower; and though promotion is open to all, and a considerable proportion of the officers do rise from the ranks, yet it is very rarely indeed that an officer so rising ever attains a higher grade than captain. Junior commissions are—if the rule of the service were strictly followed—given, one-third to men from the ranks, one-third to cadets from the milit. schools, and one-third by govt. patronage. In practice, it appears that in the artillery and engineers, two-thirds of the first commissions are given to pupils from the Polytechnique, and the remainder to men from the ranks; while in the line, two-thirds of the officers rise from the ranks, and one-third come from the military school of St. Cyr. Before officers can be promoted, certain service in each rank is required, viz., as 2d lieut., two years; as lieut., two years; as capt., four years; as major, three years; and as lieut.col., two years. These periods are curtailed in time of war. Promotion takes place in the regt. up to the rank of capt., two-thirds by seniority, and one-third by selection. From capt. to major (*chef d'escadron ou de bataillon*), promotion is divided equally between seniority and selection; while to all higher ranks it falls exclusively to selection. The selection is made on reports by the inspectors-general of the several arms—their reports being founded on personal observation, and the testimony of senior regimental officers. To maintain rapidity of promotion there is a fixed age at which officers *must* retire—viz., lieut.gen., 65 years; major-gen., 62; col., 60; lieut.col., 58; major, 56; capt., 53; lieut., 52. These ages do not prevent the officers of a regt. from being the opposite of youthful.

In *Austria*, all officers are at first cadets; but a large proportion of these cadets are nominated from men in the ranks by their comrades. Promotion goes by seniority, and in the regt., with occasional selection from other regiments.

Of the *German* army, the organization and officering are peculiar. Every German subject, of whatever rank, is bound to serve from the age of 20 to 25; but in practice this service is reduced to a year in the case of professional men. Every officer must serve in the ranks; but not necessarily for more than a day. Young gentlemen intended for officers enter the ranks as *aspiranten*. They do duty as common soldiers six to nine months, and pass two examinations: afterward they remain nine months at a Division School, or twelve months at an Artillery and Engineer School. They then become eligible for appointment as officers when vacancies occur which, however, they cannot obtain unless recommended by the officers of their respective regiments. Two-thirds of the first commissions are given to these aspiranten, and one-third to pupils from the cadet schools.

In the *Italian* army, one-third of the sub-lieutenants are promoted from the ranks. Of subsequent promotion, two-thirds go by seniority, and one-third by selection.

Concerning the *British* system, it is often charged with being too exclusive, confining the commissions to the upper classes of society; and there is no doubt that promotion from the ranks is much rarer than in other armies. But, on the other hand, it is argued that the constituents of the force are very different from those in other armies. Soldiers in Britain are not conscripts, who necessarily comprise men of all classes and all degrees of education; but they are taken, as a rule, from a low and uneducated class of society. Further, as Britain has a true middle class, lacking in almost every continental nation, its army is not necessarily aristocratic, through not being officered from the ranks. Lastly, the habits of the different classes of society differ so greatly, that unless the soldier be far superior to his comrades, promotion to a commission is to him small boon.

In the actual British system, promotion from private up to company-sergeant takes place in the company, and is made by the regimental officers. The promotion of company-sergeants to be staff-sergeants is made throughout the regt.: all these promotions are by selection. Of the commissioned officers, the quartermasters and riding-masters are appointed almost exclusively from the ranks; but they have no further promotion to expect—sergeants and sergeants-major are occasionally gazetted to ensigncies or lieutenancies. The junior combatant officers acquire their commissions either by competitive examination open to the whole nation, or by previous service in the militia as officers, or in the ranks of the army as non-commissioned officers. The artillery and engineers are officered entirely by cadets from the Royal Milit. Acad., whose subsequent promotion is by seniority only. In the cavalry, guards, and line, vacancies are, since the abolition of the purchase system 1871 (see PURCHASE SYSTEM), filled by 'seniority tempered by selection,' the selection becoming more strict as the higher ranks are reached. The promotion of officers, up to the rank of capt., is mainly regimental, and, at the same time, by seniority; but seniority is in this case qualified by what has been called negative selection—i.e., exclusion of those officers who do not at the periodical inspections and examinations, prove their fitness. Above the rank of capt. for *substantive* or *regimental* rank, seniority is little regarded, and selection is more absolute; but officers may hold at the same time *army* or *brevet* rank, conferred for distinguished service, or for mere seniority, in the general list of the whole army. This brevet rank does not affect the position in a regt., and adds but a small sum to the officers' pay; but it is of great importance, inasmuch as colonels rise by seniority alone to be general officers, and col. is almost exclusively a brevet rank (the only exception being in the artillery and engineers, where col. is a regimental rank). Under these rules, it sometimes happens that an officer who has never held higher regimental rank than capt., may become successively, for good service, brevet-major, brevet-lieut.col., and brevet col., until he succeeds, to the rank of major-general. See **STAFF**.

In the *British Navy*, the promotion of sailors to be petty officers is made by the capt. of the ship; petty officers are appointed warrant-officers by the admiral of the station, subject to admiralty confirmation. The commissioned officers are appointed and promoted by patronage solely. When a ship is first commissioned, the capt. is allowed to nominate one cadet, the admiralty name the rest. Promotions are by selection by the admiralty, except vacancies by death occurring abroad; these are filled by the admiral commanding on the station from the officers of his fleet. Above the rank of capt. all promotions are by absolute seniority. There is no purchase of commissions in the navy.

In the United States, promotions in the army and navy are regulated by statutes enacted by congress and by orders issued in conformity therewith by the pres. as commander-in-chief of the army and navy. In neither branch of the service are commissions purchasable, and honorary commands are unknown. In the army, as a rule, officers are taken primarily from among the graduates of the U. S. Milit. Acad. A sufficient number of graduates are commissioned brevet 2d lieut. and 2d. lieut to fill existing vacancies in the grade of 2d lieut. in the army; and when vacancies do not exist, the pres. is authorized by act of congress, 1886, May 17, to promote and commission graduates as additional 2d lieutenants. In the regular course of promotion the young officer will then pass through the grades of 1st lieut., capt., maj., lieut.col., col., and brig.gen. to maj.-gen.; and in time of war may receive the next higher grade to his own by brevet for special gallantry or meritorious services. The honor men of each class of graduates (the first five on the list) are allowed to choose the arm of the service that they prefer for duty; the others are assigned to the various arms according to individual fitness or existing vacancies. The brevet 2d lieut. is the lowest commissioned officer; subordinate officers, as corporals, sergeants, etc., are appointed from civil life or from deserving privates. A 1st lieut. is eligible to a staff appointment, and may have a rank higher than his real one while holding such appointment; but such temporary advancement is not a promotion, and when the time of the appointment expires the officer, though he may have had the staff rank of col., resumes his real rank of 1st lieut. According to an act of congress, the pres. prescribed new regulations for lineal promotions and examinations for promotion below the grade of maj., 1890, Oct. 28. Under these regulations officers of the line of the army and of the quartermasters, medical, ordnance, engineers, and subsistence departments below the rank of maj. who are entitled to promotion, are to be examined by a board of five members, first as to physical condition, second as to character and professional efficiency. The examinations as to professional efficiency are to be conducted by officers of the departments in which the candidates have served respectively. All proceedings of the examining boards are to be finally determined by the sec. of war. In the navy, graduates of the U. S. Naval Acad. are commissioned first as midshipmen; then follow commissions by promotion as acting masters' mates, acting ensigns, ensigns, acting masters, masters, lieutenants (junior grade), lieutenants, lieut.commanders, commanders, captains, commodores, and rear-admirals. In the medical corps the promotions are from asst. surgeon to passed asst. surgeon, surgeon, and med. inspector to med. director; in the pay corps from acting asst. paymaster to asst. paymaster, passed asst. paymaster, paymaster, pay inspector, and pay director; and in the engineer corps from acting 3d asst. engineer to 3d asst. engineer, acting 2d asst. engineer, 2d asst. engineer, asst. engineer, 1st asst. engineer, passed asst. engineer, and chief engineer. Each of the corps officers has a relative rank, ranging from ensign to captain. Naval officers on special duty, as commandants of navy-yards, chiefs of bureaus, etc., may have a higher than their lineal rank while holding the appointment. In 1891 three commodores, commanding respectively the S. Atlantic station, the Pacific station, and the squadron of evolution, held the rank of rear-admiral; but their appointments to these commands were not promotions in lineal rank. The warrant officers, holding authority by warrant and not by commission, are boatswains, gunners, carpenters, sailmakers, and mates.—In both army and navy, promotions in lineal rank are according to seniority. The offices of gen. and lieut.gen. of the army and admiral and vice-admiral of the navy were extinct 1891 by the death of their special incumbents. A 2d lieut. in the army has relatively the same rank as an ensign in the navy; 1st lieut. as master; capt. as lieut.; maj. as lieut.commander: lieut.col. as commander; col. as capt.; brig.gen. as commodore; and maj.gen. as rear-admiral. In the U. S. marine corps the promotions are from 2d lieut. to 1st lieut., capt., asst. quartermaster, maj., quartermaster, paymaster, adjt. and inspector, lieut.col., and col.commandant; but the majority of officers have passed from 2d lieut. to 1st lieut., capt., maj., lieut.col., and col.commandant.

PROMPT, a. *prŏmpt* [F. *prompt*—from L. *promptus*, visible, manifest, ready; *promĕrĕ*, to bring forward]: ready and quick to act as occasion demands; quick without hesitation; done without delay; hasty; not dilatory; ready; told down, as *prompt* payment; unobstructed: V. to incite to action or exertion; to assist a speaker when forgetful or at a loss for words; to help at a loss; to suggest to the mind. PROMPT'ING, imp.: N. the act of suggesting words to a speaker; a suggestion. PROMPT'INGS, n. plu. *-ingz*, those things which are suggested to the heart or to the mind. PROMPT'ED, pp. PROMPT'ER, n. *-ėr*, one whose business in a theatre is to assist an actor or speaker when at a loss for words; an admonisher. PROMPT'ERSHIP, n. the office of a prompter. PROMPT'LY, ad. *-lĭ*. PROMPT'NESS, n. *-nĕs*, state or quality of being ready or quick; readiness; alacrity. PROMPTITUDE, n. *prŏmpt'ĭ-tūd* [F.—L.]: quickness; readiness; cheerful alacrity. PROMPT-BOOK, in a *theatre*, the book used by the person who assists or prompts the players. PROMPT-NOTE, a note of reminder of the day of payment and sum due, usually given to a purchaser at a sale of produce.—SYN. of 'prompt': ready; expeditious; apt; agile; quick; brisk; nimble; alert.

PROMULGATE, v. *prō-mŭl'gāt* [L. *promulgātus*, made known; *promulgārĕ*, to publish: said to be derived from *pro*, before; *vulgus*, the people: It. *promulgare:* F. *promulguer*]: to publish; to proclaim; to make known by open declaration. PROMUL'GATING, imp. PROMUL'GATED, pp. PROMULGATION, n. *prō'mŭl-gā'shŭn* [F.—L.]: the act of promulgating; open declaration; publication. PRO'MULGA'TOR, n. *-gā'tėr*, or PROMULGER, n. *prō-mŭl'jėr*, one who makes known what was before unknown.—SYN. of 'promulgate': to publish; divulge; reveal; disclose; discover; uncover; announce; declare; proclaim.

PROMULGE, v. *prō-mŭlj'* [F. *promulguer* (see PROMULGATE)]: in *OE.*, to publish; to teach openly; to promulgate. PROMULG'ING, imp. PROMULGED', pp. *-mŭljd'*.

PRONAOS, n. *prō-nā'ŏs* [Gr. *pro*, before; *nāŏs*, a temple]: area immediately before the cell of an anc. temple, through which the temple was entered; portico in front of a building.

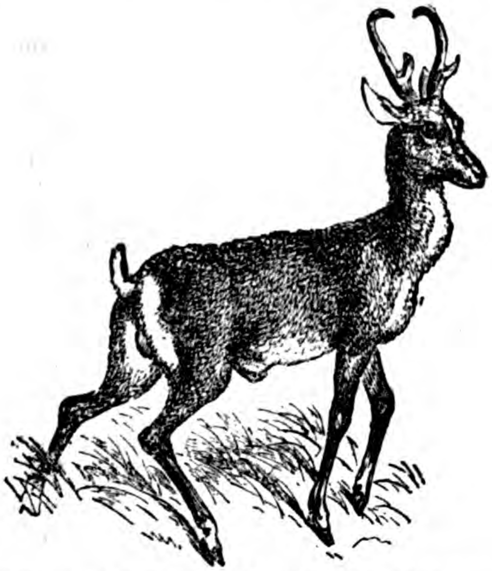
PRONATION, n. *prō-nā'shŭn* [L. *prōnus*, leaning or hanging forward, stooping (see PRONE)]: in *anat.*, the act by which the palm of the hand is turned downward, with the thumb toward the body; the position of the hand so turned. PRONA'TOR, n. *-tėr*, one of the two muscles used in the act of turning the palm downward: ADJ. pert. to these muscles.

PRONE, a. *prōn* [L. *prōnus*, leaning or hanging forward–from *pro*, forward]: bending forward; inclined; not erect; lying with the face downward; disposed; mentally inclined, generally in an ill sense; precipitous; in *OE.*, headlong. PRONE'LY, ad. *-lĭ*. PRONE'NESS, n. *-nĕs*, state of lying with the face forward; inclination of

mind; disposition.—SYN. of 'prone': **headlong; precipitous; sloping;** inclined; propense; disposed.

PRONG, n. *prŏng* [W. *procio*, to stab: **Gael.** ***brog***, to spur: Scot. *prog*, a sharp point]: one of the pointed divisions of a fork; a pointed projection; a pitchfork. **PRONGED,** a. *prŏngd*, having prongs like the tines of a fork. **PRONG-HOE,** a hoe having prongs.

PRONG-HORN, or **PRONG-HORNED ANTELOPE** (***Antilocapra Americana***): species of ruminant inhabiting the great western prairies. It is the *Cabrit* or *Cabree* of the Canadian voyageurs. Its place in zoology is wholly unique,—the only species of the only genus of the family *Antilocapridæ.* In form and size it resembles a small deer, but has hollow deciduous horns like the ox family, though these are deer-like in form; in this respect it differs from all other ruminants, including antelopes. Its range is from far north in British America to Mexico, becoming scarce where most hunted; and it frequents plains and low hills, where there is no wood, or only scattered clumps of trees; never mountains nor forests. In summer, the hair of the P. is smooth and flexible, but lengthens as winter approaches; each hair becomes thick, its interior becomes white and spongy, and it loses its flexibility, at last becoming brittle, so that its point is easily rubbed off; but this singular fur forms a very close and warm covering. The P. is seen usually in small herds, sometimes solitary. It is very curious about any strange object, and advantage is taken of this by Indian hunters, who crouch, run a few yards, and stop again; the prong-horns wheeling around them, coming nearer, and becoming still more curious, till they are within shot.



Prong-horned Antelope (*Antilocapra Americana*).

PRONOMINAL, a. *prō-nŏm′ĭ-năl* [F. *pronominal*—from L. *pro*, for; *nōmen*, a name: It. *pronominale*, pronominal]: belonging to or having the nature of a pronoun. **PRONOM′INALLY**, ad. *-lĭ*.

PRONOTARY, n. *prō-nō′tėr-ĭ*: a first notary.

PRONOUN, n. *prō′nown* [F. *pronom*—from L. *pronōmen*, a pronoun—from *pro*, for; *nomen*, a name: It. *pronome*, a pronoun]: in *gram.*, word which refers to, or stands instead of, a noun. Pronouns are one of the classes of words or parts of speech, possessing a special interest both logical and philological. '*I* am sick.' '*Thou* knowest the truth.' 'John was here, but *he* went away again.' 'Peter struck the boy, *who* had done *him* no harm.' '*What* do *you* want?' The words in italics in these sentences are called *Pronouns*, because they stand *for* nouns, or names of persons and things; and they are generally said to be used to prevent too frequent repetition of the nouns. Yet the pronoun and the noun are not exact equivalents for each other. No noun can be an exact substitute for *I, thou,* or *who.* Pronouns are symbols, names, or highly-generalized marks, applied to objects to signify, not any inherent attribute, but merely *their relations to the act of speaking.* They might therefore be called *relational names. I,* for instance, is a name applicable to all subjects that can be conceived as speaking. In such a sentence as '*I* am sick,' in which the state, 'sick,' is affirmed about some one, the exact force of *I* may be thus expressed: the person of whom 'sick' is affirmed is one with the person making the affirmation. Who the individual person is, the pronoun *I* gives no indication; it is implied that this is known from some other source. Those present learn it by hearing whence the sound comes; in a book, it is gathered from the context.

In like manner, *thou* is a generalized name for all persons spoken to. What it means or *connotes* is—with reference to the example above given—that the person affirmed to know the truth, and the person to whom the affirmation is addressed, are one and the same. What particular person it *denotes* must be learned, as before, from circumstances. If the clause, '*he* went away again,' stood by itself, what person is denoted by *he* would be still more vague than in the case of *I* and *thou*. *He* merely implies that a person, neither the speaker nor the spoken to, but one known in some way, is the subject of the assertion. Who it is, is determined, in the example, by *John*, with which *he* stands in close relation. *Who* designates some person already named, referring us back to that name (*the antecedent*) for determining the individual. *What* connotes that the subject is unknown.

Pronouns are usually divided into Personal and Relative.

1. *Personal Pronouns.*—The several objects concerned in a speech or sentence stand in one or other of the

three relations of speaker (First Person), object spoken to (Second Person), object spoken about (Third Person). Pronouns expressive of these relations are called Personal Pronouns. They are (in the nominative case), 1st person, *I, we ;* 2d. *thou, ye* or *you ;* 3d, *he, she, it, they.*

With the personal pronouns, and most nearly related to the pronouns of the third person, may be classed the words *one* and *that* in certain constructions. In phrases like '*One* cannot be sure of that,' *one* is an indefinite pronoun, designating any person whatever. It is distinct from the numeral adjective *one*, being derived from the French *on*, which is a corruption of *homme*, man. When we say, 'I like peaches, but let me have a ripe *one*, or ripe *ones*,' we have now the numeral used as another indefinite pronoun. The first of these indefinite pronouns is applied only to persons; the second, both to persons and to things.

When we say, 'Give me *this*, and keep *that*,' *this* and *that* may be considered as demonstrative adjectives, with some noun understood—this (thing). But in the expression, 'He mistook his own room for *that* of the stranger,' *that* appears to be as much a pronoun as *one*.

2. *Relative Pronouns* (including *Interrogative*).—Relative Pronouns, besides standing for nouns, have the power of conjunctions. They join sentences and clauses, by relating or referring back directly to something just named. The relatives in English are three—*who, which,* and *that:* see RELATIVE PRONOUNS.

What is used for *that which*, thus embracing both relative and antecedent. In phrases like 'such a storm *as* now burst on them,' *as* is used with the force of a relative pronoun. Perhaps the full expression would be 'such a storm as (the storm that) burst.'

3. *Interrogative Pronouns* are those used in asking questions; they are *who, which,* and *what.*

These are the *simple* pronouns. But a variety of compounds are formed by joining these simple pronouns with other words such as *himself, whatever, any one.*

Pronouns, as we have seen, express the most abstract relations in language. They are, in fact, the most attenuated and colorless signs of thought conceivable—the highest effort, apparently, of man's generalizing powers. Accordingly, in the days of purely *à priori* speculation on the origin and growth of language, it was held to be indisputable that pronouns must have been the latest product of the language-making faculty; and they have been appealed to as a conclusive argument against the theory that the meaning of all words, when they are traced to their origin, is grounded on sensible properties and relations of material things. The philologist, on the contrary, pursuing his investigations on the historico-comparative method, sees irresistible proof that pronouns, in the Aryan family of languages at least, were among the earliest words in use. In fact, besides their independent use, the same elements are found as suffixes forming the inflections (see INFLECTION) of the predicative roots, and first making them real words capable of entering into a sentence. In the beginning, however, they were far from being the impalpable abstractions that they afterward became, and really form the strongest proof of the theory that they were supposed to disprove. They were, in fact, simply demonstrative particles, indicating palpable relations of space or position ('that' or 'there,' 'this' or 'here,' 'what' or 'where?'). We can easily see how the indication of the vocal sign would at first be helped out and made precise by gesticulation; or more probable still, the gesticulation was at first the fundamental sign, and the word a natural involuntary utterance accompanying it, and in process of time taking its place.

Of the various demonstrative radicals still traceable in the Aryan tongues as pronouns and suffixes, one of the most universal and outstanding is the sound *ta* or *sa* for 'that' or 'this,' 'there.' It is seen in the Sanskrit *sa* (mas.), sâ (fem.), *tad* (neut.); Lat. is(*te*), (is)*ta*, (is)*tud*; Gr. *ho*, *he*, *to*; Goth. *sa*, *sô*, *thata*; AS. *se*, *seó*, *thæt*; as also in the numerous allied adverbs, e.g., Lat. *tam*, *tunc*; Ger. *dann*; Eng. *so*, *as*, *then*, *thus*. Another demonstrative radical, *ma*, seems to have been used to call attention to the speaker—to point to the immediate or central 'here;' in short, to the 'me.' Besides occurring in the oblique cases of the first personal pronoun, the element *ma* or *m* enters largely into the suffixes of the first person of verbs in the older languages, such as Greek and Latin. The only remnant of it in English is in *I am.* The nominative case of the first person pronoun in Skr. is *ahám*, conjectured to be a mutilation of a fuller form *ma-gha-m*; in Gr. and Lat. *ego*, Goth. *ik*, Ger. *ich*, AS. Eng. *I*, Ital. *io*, Fr. *je*, the *m* has completely disappeared. In the oblique cases it has been better preserved. The root of the 2d pers. pron. seems to have been the syllable *tu* or *tva*, indicating a position intermediate between the central 'here' and the more distant and contrasted 'there.' The form of this pronoun is more constant throughout the allied languages than that of any other: Skr. *tvám*, Lat. *tu*, Gr. *ty* or *sy*, Ger. *du*, Eng. *thou*, Fr. *tu*, Ital. *tu*.

The pronouns of the first and second person are invariable in respect of gender, and are never used as adjectives; the pronouns of the third person not only take the form of adjectives in respect of gender, but are often—especially in the older languages—joined to nouns, in which case they are rather demonstrative (or relative) adjectives than pronouns; as Lat. *ille homo*, Eng. *that book*. It is difficult to trace any etymological relations between the singular and the plural in the first and second pronouns—e.g., between Lat. *tu* and *vos* or Eng. *thou* and *you*; but this is not to be wondered at when we reflect that 'we' is not equal to 'I' and 'I,' but to 'I' and 'he,' or 'I' and 'thou;' and that 'you' is as much 'thou' and 'he' as 'thou' and 'thou.' The plurals must therefore have been compounded of several elements, which, by coalescence and abrasion, have become irrecognizable.

The declension of the English personal pronouns is shown in any elementary grammar. That of the third person is made up of fragments of several Anglo-Saxon words. The Anglo-Saxon pronoun was thus declined:

Sing.	Nom.	*he* (he),	heó (she),	*hit* (it)
	Gen.	*his*	*hire*	*his*
	Acc.	hine	hi	*hit*
	Dat.	*him*	*hire*	him
Plur.	Nom. Acc.	hi		
	Gen.	hira (heora)		
	Dat.	him (heom)		

The cases marked in italics are still used in modern English, only that *him* and *her* do duty in the accusative as well as dative. *His*, as the genitive of the neuter, has been supplanted in recent times by the secondary genitive *its*, a word which does not occur in the English version of the Bible. *She* does not represent the Anglo-Saxon *heó* but *seó*, the feminine of the article. The modern plurals *they*, *their*, *them*, have no direct etymological connection with the singular *he* (she, it); they are taken from the demonstrative or article *thæt* (that, the), which has, in the plural, nominative and accusative *thá*, genitive *thára*, dative *tham*. *Them*, like *him*, was thus originally a dative case. Is it a lingering memory of the demonstrative origin of *them* that keeps alive the vulgar error of 'them things?'

Such being the arbitrary, or rather the chance way in which the English pronominal system has been built up out of the wrecks of the Anglo-Saxon, there is no good reason why *them*, *him*, *her*, should not have been used in the nominative as well as in the accusative; and, in fact, in certain connections, these forms, together with *me*, are habitually so used, though grammarians have hitherto refused to sanction the usage. Such expressions as 'It is me;' 'better than him, than them,' etc., are not confined to the uneducated; in familiar conversation, the cultivated use them frequently, and in preference to what are considered the correct forms, which are felt somehow to be stiff and pedantic. This usage has the analogy of the French in its favor (e.g., *c'est moi*), and some English philologists have even begun to defend it on principle. See Alford, *The Queen's English*.

From politeness and other rhetorical motives, various substitutes take the place of the usual personal pronouns. The English language departs little from the normal usage, except in *you* for *thou*, and in the regal and editorial *we*. A French shopkeeper, instead of 'What do you wish to see?' says: 'What does the gentleman (or lady) wish to see?' All modern languages use such substitutions as, 'Your Majesty, your Excellency, wishes;' but the Italian, in speaking further of the Excellenza, says: 'It (*ella*, she) wishes.' The Germans use regularly *they* (*sie*) for *you*, and one never hears *you* except from the German pulpit. In Hebrew, politeness took the form of saying: 'Thy servant said,' for 'I said.' Similarly, the Chinese use: 'little man, subject, thief, blockhead,' for 'I;' and an American backwoodsman may speak of himself as 'this 'oss,' or 'this here child.'

PRONOUNCE. v. *prō-nowns′* [L. *pronun′ciō*, I tell or report publicly—from *pro*, forth; *nun′ciō*, I declare: It. *pronunciare*]: to speak; to articulate; to utter formally or solemnly; to declare; to utter an opinion; to speak with confidence or authority. PRONOUNC′ING, imp.: ADJ. teaching pronunciation. PRONOUNCED′, pp. *-nownst′*: ADJ. declared; decided. PRONOUNC′ER, n. *-ėr*, one who pronounces. PRONOUNCE′ABLE, a. *-ă-bl*, that may be uttered. PRONUN′CIAL, a. *-nŭn′shăl*, pert. to the articulation of words. PRONUN′CIA′TION, n. *-sĭ-ā′shŭn*, the act or mode of uttering or articulating syllables and words; utterance.—SYN. of 'pronounce': to utter; articulate; deliver; speak; declare.

PRONOUNCEMENT, n. *prō-nowns′mĕnt* [Sp. PRONUNCIAMIENTO, *prō-nûn′sĕ-ăm-ĭ-ĕn′tŏ*, a declaration]: a proclamation; a formal announcement.

PROOF, n. *prôf* [AS. *profian*, to prove or try: F. *preuve*, a proof: Port. and It. *prova* (see PROVE)]: evidence; testimony; test; trial; any effort, process, or operation to ascertain truth; that which convinces the mind and produces belief (see EVIDENCE): capacity of resistance, as fire-*proof*, water-*proof*; firmness or stability of mind; a standard strength of spirit, containing nearly equal weights of pure alcohol and water; an impression taken from a form of type, or from an engraved plate, for examination and correction; in *OE.*, armor hardened till it can abide a certain trial: ADJ. able to resist something; impenetrable. PROOF′LESS, a. *-lĕs*, incapable of being tested. PROOF COPY OR IMPRESSION, one of the first and best impressions from a plate before it becomes worn. PROOF-HOUSE, a place where the strength of guns or gunpowder is tested. PROOF-SHEET, an impression from type for correction. PROOF-SPIRIT, spirit having pure alcohol in a certain fixed large proportion, generally 49¼ per cent. PROOF-TEXT, a passage of Scrip. for proving a doctrine.—SYN. of 'proof, n.': evidence; testimony; token; test; trial; experiment; temper; impenetrability; reason; argument; demonstration.

PROOF OF FIREARMS: testing of all kinds of guns before their use for service. Muskets are tested by being fired with heavier bullets and larger charges of powder than they will in ordinary use be required to carry. Cannon are subjected to a series of tests. First, they are gauged to ascertain that the dimensions are correct, the utmost variation permitted being ·3 inch externally, and ·033 in the diameter of the bore, but the position of the bore may deviate ·25 inch from the line of the piece's axis. The next trial is by firing twice with heavy charges—the bore being subsequently minutely examined, to detect flaws or crevices in the metal. A cavity exceeding in depth ·2 inch, if behind the first reinforce ring, or ·25 if before that ring, condemns the piece. After the proof by firing, water is forced at a great pressure into the bore, in order that it may permeate any honeycombs or flaws: the next day, the bore is examined by means of a mirror, which casts a strong light into it: flaws are then easily detected; for while the rest of the bore is thoroughly dry, water will continue for some time to weep or run from the holes, and will stand over them in drops. This operation completes the proof. When a gun bursts in proof, the remainder of the guns of the same sort then in proof are subjected to another round.

In the case of guns of hitherto untried form, some are tested to bursting, as specimens of the power and endurance of the whole number. For Proof of Powder, see **EPROUVETTE.**

PROÖPIC, a. *prō-ŏp′ĭk* [prefix *pro ;* Gr. *opsis*, the face, the visage]: in *anthrop.*, term applied to individuals or races having the nasomalar index above 110, as is the case with the Caucasians.

PROÖTIC, a. *prō-ō-tĭk* [prefix *pro- ;* Gr. *ōtos*, the ear]: in *compar. anat.*, pertaining to the anterior ossification of the auditory capsule, corresponding to part of the petrous bone in man.

PROP, n. *prŏp* [Dan. *prop :* O. Dut. *proppen*, to prop: Sw. *propp*, a bung or cork: Gael. *prop*, to support, to sustain]: that on which anything rests; a support; a stay: V. to keep up by placing something under or against; to support; to sustain. **PROP′PING**, imp. **PROPPED**, pp. *prŏpt.*

PROPÆDEUTICS, n. plu. *prŏ′pē-dū′tĭks* [Gr. *pro*, before; *raideu′ō*, I instruct—from *rais* or *raida*, a child]: the preliminary learning necessary for the proper study of any art or science.

PROPAGANDA.

PROPAGANDA, n. *prŏp′ă-găn′dă* (Lat. *De Propaganda Fide*, Regarding the Propagation of the Faith), [It. *propaganda*, the propaganda—from L. *propāgo*, I extend, I increase: F. *propagande*]: name of a Congregation or soc., also of a college in Rome, whose object is to direct and forward the propagation of the Rom. Cath. religion, especially among the heathen; though Christian dissenters from the Roman Church also are included in its sphere. The institution was originated by Pope Gregory XIII. (1572–84); but was fully organized by Gregory XV., who, by a bull 1622, June 22, established a special Congregation for this purpose, which his successor, Urban VIII., extended and endowed, and to which he annexed a college for education of missionaries to the several countries; one great feature of which has been to provide for such work natives of the several countries, who are conveyed to Rome at an early age for the purpose of being specially educated in all necessary learning of a missionary. The Congregation consists of a number of cardinals appointed for life, one of whom is prefect, and who are assisted by a sec. and by a number of consulters, clerks (*minutanti*), and other officials. This Congregation conducts the affairs not only of the missionary countries, properly so called, but also of those—as England, the northern European kingdoms, etc.—in which the hierarchical organization is not, or has not been full and formal. The Rom. Cath. Church in these kingdoms is directly subject to the P. in all details of its government. The College of the P. is a noble institution, containing nearly 200 pupils of all countries, tongues, and complexions, who are not only maintained and educated gratuitously from a very early age, but are equipped and sent forward to their several destinations at the charge of the institution. The operations of both College and Congregation have been somewhat embarrassed by diminution of funds, consequent on appropriation of ecclesiastical property to public purposes in the kingdom of Italy; but the want is in a great measure supplied by voluntary offerings. The P. College contains a most valuable library and museum, and a polyglot printing-press. Its great festival is the Epiphany of the Lord Jesus, or of His 'manifestation to the Gentiles;' and this feast is celebrated by an exhibition of exceeding interest and curiosity, in which are delivered recitations in every language represented in the College or its missions, numbering often 50 or 60. Of this festival, the celebrated Cardinal Mezzofanti (q.v.) was the guiding spirit. It continues to be one of the chief literary sights of the Roman winter.—The term Propaganda is applied also to a secret political party or association; any kind of institution for making proselytes. PROP′AGAN′DISM, n. *-dĭzm*, act or practice of propagating zealously tenets or principles. PROP′AGAN′DIST, n *-dĭst*, one who devotes himself to the spread of certain tenets and principles.

PROPAGATE, v. *prŏp′ă-gāt* [L. *propagātus*, extended, increased; *propagārĕ*, to extend, to increase: It. *propagare;* F. *propager*, to propagate]: to spread or cause to increase in number; to continue by generation; to extend; to cause to go from person to person; to carry from place to place; to disseminate; to have offspring or issue. **PROP′AGATING**, imp.: N. the act of one who propagates; diffusion. **PROP′AGATED**, pp. **PROP′AGATOR**, n. *-tėr*, one who propagates. **PROP′AGABLE**, a. *-gă-bl*, that may be spread or extended by any means; that may be continued or multiplied. **PROP′AGA′TION**, n. *gā′shŭn* [F.—L.]: the spreading or expansion of anything; the continuance of the kind by generation or successive production. **PROP′AGATIVE**, a. *-gā-tĭv*, connected with or produced by propagation. **PROPAGATING-GLASSES**, small hand-glasses for covering and protecting young seedlings or growing plants in a garden or nursery.—SYN. of 'propagate': to extend; widen; spread; promote; carry; increase; generate; circulate; disseminate; multiply; continue; diffuse; produce.

PROPAGA′TION OF THE FAITH, ASSOCIATIONS FOR ROMAN CATHOLIC: private associations originating in the 19th c. for extension of the Rom. Cath. faith. The earliest and the highest in dignity of associations for this object is the *Propaganda* (q.v.). But the resources of the private associations arise almost entirely from voluntary annual contributions, and their organization is in a high degree complete and extensive. The first of these is that founded at Lyon 1822, under the title 'Œuvre de la Propagation de la Foi,' with a branch at Paris, and subordinate branches in the other Rom. Cath. kingdoms. It is under the direction of a council at Lyon and Paris, which communicates as well with the local associations through which the funds are supplied by small weekly, monthly, or yearly contributions, as with the missions to the aid of which the fund so raised is applied, by an apportionment regulated according to the necessities of each, especially for supply of missionaries. The piety of contributors is stimulated by the exhortations of the popes, and the granting of indulgences to those who, with the other requisite dispositions, aid in the work. The journal of the society, *Annales de la Propagation de la Foi*, is a very interesting bimonthly collection of letters and reports in French from the different missions connected with the central body. The annual receipts of this assoc. are about 5,000,000 francs, raised mostly in France; but some later years' returns have been even more considerable. Spain, formerly the great propagator of the gospel in the new world, contributes very little; but it is to be observed that Spain maintains for her own missionary enterprises a large and liberal establishment in connection with the mission to the Philippines and the South Sea.

Other associations connected with the P. of Rome are the ‘Leopoldiner-Verein,’ established Vienna 1829; and that established in Bavaria as an offshoot of the Lyon assoc. under the name ‘Ludwigs Missions-Verein.’

PROPAGULUM, n. *prō-păg′ū-lŭm* [L. *propăgo*, a layer, a setting, offspring: It. *propaggine*]: in *bot.*, an offshoot or germinating bud attached by a thickish stalk to the parent plant; a runner ending in a germinating bud.

PROPAROXYTONE, a. *prō′păr-ŏks′ĭ-tōn* [Gr. *pro*, before; *para*, beside; *oxus*, sharp; *tonos*, accent]: having an acute accent on the antepenultimate, i.e., the last syllable but two—a word having the acute accent on the last syllable is said to be *oxytone;* on the second last, *paroxytone.*

PROPEDS, n. plu. *prō′pĕdz* [L. *pro*, for; *pedēs*, feet]: the soft foot-like appendages of certain larvæ, placed behind the true feet, and disappearing in the mature insects—same as PROLEGS.

PROPEL, v. *prō-pĕl′* [L. *propel′lĕrĕ*, to hurl or cast forward, to propel—from *pro*, forward; *pello*, I drive]: to urge or press onward by force. PROPEL′LING, imp.: ADJ. driving forward. PROPELLED′, pp. *-pĕld′*. PROPEL′LER, n. *-pĕl′ėr*, or SCREW-PROPELLER, a screw placed in the stern of a ship and moved by steam, the action of which propels the vessel; the vessel thus propelled.

PROPEND, v. *prō-pĕnd′* [L. *propen′dĕo*, I hang forward—from *pro*, forward; *pendĕo*, I hang]: in *OE.*, to incline to; to be disposed in favor of. PROPEND′ING, imp. PROPEND′ED, pp.

PROPENSE, a. *prō-pĕns′* [L. *propen′sus*, hanging forward—from *pro*, forward; *pendĕo*, I hang]: leaning toward, in a moral sense; disposed; prone. PROPEN′SITY, n. *-pĕn′sĭ-tĭ*, bent of mind; disposition; bias—generally in a bad sense.—SYN. of ‘propensity’: disposition; bias; bent; inclination; turn; tendency; proneness; proclivity.

PROPER, a. *prŏp′ĕr* [F. *propre*, fit, proper—from L. *prop′rĭŭs*, one's own, special: It. *proprio*]: fit; suitable; agreeing; correct; becoming; decent; such as should be; peculiar to a person or thing; not common; pert. to one only of a species: in *gram.*, applied to such names as *John Smith, London, Edinburgh,* as opposed to *man, city:* in *astron.*, the real motion of the sun and stars, as opposed to their apparent motion: in *her.*, descriptive of a charge borne of its natural color—an object whose color varies at different times and in different examples, e.g., a rose, which may be white or red, cannot be borne proper: in *OE.*, natural; original; mere; pure. Prop′erly, ad. *-lĭ.*—Syn. of 'proper': peculiar; natural; original; fit; adapted; suitable; qualified; good-looking; personable; correct; becoming; decent.

PROPERTIUS, *prō-pĕr′shĭ-ŭs*, Sextus Aurelius: Roman elegiac poet of the Augustan age: b. in Umbria, of good family, about B.C. 50; d. some time after B.C. 16. He lived at Rome in the brilliant circle of Mæcenas. His poems are a collection of elegies which have reached us in incomplete and corrupt form. Though his addresses to 'Cynthia,' of which most of his poems consist, are marked by intensity of feeling and warmth of passion, P. is a distinctively learned poet; his verse is even rendered highly obscure, and at times for us almost unintelligible, by his wealth of mythological lore and multiplicity of remote allusions. It has often been debated whether P. or Tibullus was the greater poet. In his versification P. was much influenced by Greek models. There are modern editions of the text by Hertzberg, Keil, Haupt, and Müller (1870). There are English translations by Moore (1870) and Cranstoun (1875). See Davies's *Catullus Tibullus and P.* (1877), and Munro's *Papers on Propertius.*

PROPERTY, n. *prŏp′ĕr-tĭ* [F. *propriété*, property, propriety—from L. *proprĭĕtas*, peculiar nature, property—from *prop′rĭŭs*, one's own: It. *proprieta*]: peculiar quality; that which is inherent in a thing, or essentially natural to it; an acquired or artificial quality; the exclusive right of possessing and disposing of a thing; the thing owned or possessed; an estate(see Estate: Personalty: Personal Estate: Real Estate, or Realty: Possession: Bailment: etc.); a theatrical appendage; in *OE.*, nearness; right: V. in *OE.*, to invest with qualities; to seize or retain what is one's own by right; to appropriate. Prop′ertying, imp. *-tĭ-ĭng*. Prop′ertied, pp. *-tĭd.* Prop′erties, n. plu. *-tĭz*, articles required in a play by actors, distinct from dress. Prop′erty-man, one having charge of the loose articles and fittings in a theatre. Prop′erty-tax, a duty on the annual value of houses, etc., payable by the owner to government.—Syn. of 'property': goods; possessions; estate; chattels; commodity; merchandise; wares; effects; quality; attribute.

PROPH′ASIS: see Prognosis.

PROPHECY, n. *prŏf′ĕ-sĭ* [F. *prophétie;* It. *profezia*, prophecy—from mid. L. *prophētī′ă*—from Gr. *prophētei′ă*, prophecy; *prophētēs*, a prophet; *prophēmi*, I foretell—from *pro*, before; *phēmi*, I say]: a declaration of something to come by one commissioned by God; a prediction; a book of prophecies: powerful utterance of spiritual truth under special Divine influence; preaching; instruction (see below). **PROPH′ESIER**, n. *-sĭ-ėr*, one who predicts events. **PROPH′ESY**, v. *-sī*, to foretell future events by Divine inspiration; to predict; to utter predictions; to declare the Divine will; to interpret the Scriptures; in *OE.*, to foreshow; to utter predictions; to preach. **PROPH′ESYING**, imp.: N. the act of foretelling future events; interpretation. **PROPH′ESIED**, pp. *-sīd.* **PROPH′ET**, n. *-ĕt*, one who foretells future events; one inspired of God to declare His purposes; an interpreter of Scripture. **PROPHETIC**, a. *prō-fĕt′ĭk*, or **PROPHET′ICAL**, a. *-ĭ-kăl*, foreseeing or announcing future events. **PROPHET′ICALLY**, ad. *-lĭ.* **PROPHETESS**, n. *prŏf′ĕt-ĕs*, a female prophet.

PROPH′ECY: word of pregnant signification. According to its usual acceptation in modern English, it implies *prediction*—foretelling of events; but neither according to the original meaning of the word prophet in Hebrew (*nabi*) or in Greek (*prophētēs*), nor according to historical usage of the verb *prophesy* in English, is this the exclusive meaning. The etymological force of the Hebrew word according to the best authorities, denotes 'a person who, as it were, bursts forth with spiritual utterances under divine influence; or simply one who pours forth words.' The *Nabi* is the medium of special divine communication—according to some, the man inspired by God to whom divine communications are made; but more distinctively, according to others, the man who delivers the burden of the divine thought imparted to him, who makes known the declarations of God. Besides the more authoritative expression *Nabi*, there are two other expressions (*Roèh* and *Chozeh*) used in the Hebrew original with something of the same meaning, and translated in our English version 'seer.' The exact meaning of the several words in their relation to one another has been disputed. The best view seems to consider *Nabi* to denote specially the official function of the prophet, the *order* to which he belonged; and the other expressions to point peculiarly to the nature of the prophetic gift—the intuition or vision of the divine. The one may stamp more the objective function of the prophet as a *teller* or *utterer* of the divine, the other more his subjective capacity as a *seer* of the divine.

The original and proper import of the word P. therefore, is the utterance of the divine. The prophet is the 'interpreter of the Divine will.' He is expressly called 'the interpreter and the messenger of Jehovah.' The idea of prediction is not excluded; but this idea is not a radical and necessary part of the meaning of the word, nor was it at all necessarily an element of the prophetic office. This is apparent from the use of the word in the English Bible and older theological literature. The sons of Asaph, e.g. (I Chron. xxv. 3), 'prophesied with a harp, to give thanks and to praise Jehovah,' in the sense of merely singing or uttering God's praise under the dictate of the Divine Spirit. It is said also of Philip the Evangelist (Acts xxi. 9) that he had 'four daughters, virgins, which did prophesy,' in the sense merely or mainly of fervently declaring the gospel. In like manner, Bacon speaks in his day of 'an exercise commonly called *prophesying*,' which consisted in the exposition of a portion of Scripture by successive ministers at a meeting appointed for the purpose; and well-known title of one of Jeremy Taylor's books, *The Liberty of Prophesying*—i.e., the liberty of preaching—recalls the same use of the word.

P. among the Jews was a distinct office or function constituted under the divine sanction. The prophets were an *order* instituted, or at least reformed and more thoroughly organized by Samuel. There were prophets, indeed, before; Abraham is called a prophet (Gen. xx. 7); Moses also (Deut. xviii. 15; xxxiv. 10); Aaron is the 'prophet of Moses' (Ex. vii. 1), and Miriam is 'a prophetess' (Ex. xv. 20); but it was Samuel who first established the office as a systematic part of the Jewish religion. For this purpose, he gathered together companies of young men of promising spiritual attainments, who were trained under his superintendence for various religious duties—the exposition of the theocratic law, and the conduct of the theocratic worship, especially of its elaborate musical departments (I Sam. x. 5; I Chron. xxv. 6). The use of the psaltery and tabret, pipe, harp, and cymbal, was the peculiar business of the prophets. The young men were set apart to make proficiency in these instruments; they were placed under an elderly head or president, who received the name of father, and they were called his sons. They were 'all under the hands of their father for song in the house of Jehovah, with cymbals, psalteries, and harps, for the service of the house of God' (I Chron. xxv. 6). The prophetic institutions have been called by modern divines 'Schools of the Prophets;' but this name does not occur in Scripture, nor even in the authorized English version. 'Sons of the Prophets' is the only collective name applied to the separate companies into which they were formed by Samuel. These companies were located in special spots: in Ramah, birthplace and residence of Samuel; in Bethel, Gilgal, Jericho, and ultimately Jerusalem. They lived in huts made of the branches of trees; wore a simple, characteristic dress; had their meals together, and were found in numbers sometimes of 50, sometimes even of 400. A prophet not trained in one of these institutions was deemed, as Dean Stanley says (*Jewish Church*, I. 429), 'an exceptional case.' Some, like Isaiah in Jerusalem, or Elisha in

Samaria, lived in great towns, in houses of their own. The higher prophets had inferior prophets or servants attendant, whose duty it was to pour water on their hands, and secure provisions for them (II Kings, iii. 11; v. 22). Thus, Moses had Joshua and others; Elijah had Elisha; Elisha had Gehazi. Many of them were married, and had families; e.g., Moses, Samuel, Deborah, David, Hosea, Isaiah, Ezekiel. The wife was sometimes, as in the case of Isaiah, called 'the prophetess.'

The prophets, according to this description, were a peculiar order of teachers among the Jews; prophecy, a distinctive part of the divine economy, by which God trained and educated the 'chosen people.' Beginning in a definite, though still unorganized form, with Moses (for it is only incidentally that Abraham is called 'a prophet'), it assumes a regular organization in the hands of Samuel, just when the earlier form of the theocratic government was passing away, and the monarchy was established. It grew up by the side of the older institution of the Levitical priesthood without any professed or formal opposition to the latter, but with a function distinct, and often practically opposed to it. The priests ministered at the altars of sacrifice, and discharged all the official rites of purification enjoined by the Jewish law. They were only secondarily teachers of the people; but the prophets, while joining in the rites of the tabernacle and temple, were primarily and mainly teachers. Their function was moral, not ritual; they upheld the ethical, spiritual, and eternal side of religion, apt to be obscured under the hardening tendencies and ambitious officialism of an organized priesthood. Amid the confusion and evils of their time, they were the great preachers of the righteous government of God over the world, and of future retribution and reward; and prophecy was the ever-renewing and reforming element in the constantly corrupting and decaying policy of Judaism. Particularly, the prophets were the national historians and poets of the Jewish people, narrators of its past deliverance, heralds of its coming glories. The books of Joshua, Judges, Samuel, and Kings are included among the prophetical books of the Old Testament in the Jewish canon; while the acts of David by Gad and Nathan, of Solomon and Jeroboam by Nathan and Iddo, with other historical and biographical pieces, have been lost. The splendid collection of the later prophetic books, beginning with Joel, contains with much direct historical matter also specimens of the most exalted poetry found in any language.

The element which by many has been supposed the distinctive character of P. and the special function of the prophets, remains to be noticed. According to the general view of theologians in modern times, P. is peculiarly *predictive*, and the essential characteristic of the prophet is supposed to be the power of *foretelling future events*. Though this view is not warranted, as we have seen, by either the etymology of the word, or a comprehensive survey of the facts, it is, nevertheless, undeniable that the Hebrew prophets directed their atttention especially to the future, and 'made predictions concerning the fortunes of their own and other countries, which were unquestionably fulfilled.' 'There can be no reasonable doubt, for example,' writes one of the most liberal of modern theologians (Dean Stanley, *Jewish Church*, I. 466), 'that Amos foretold the captivity and return of Israel, and Micah the fall of Samaria, and Ezekiel the fall of Jerusalem, and Isaiah the fall of Tyre, and Jeremiah the limits of the captivity. It was the distinguishing mark of the Jewish people,' adds the same writer, 'that their golden age was not in the past, but in the future; that their greatest hero (as they deemed him to be) was not their founder, but their founder's latest descendant. Their traditions, their fancies, their glories, gathered round the head, not of a chief, or warrior, or sage that had been, but of a king, a deliverer, a prophet, who was to come. Of this singular expectation, the prophets were, if not the chief authors, at least the chief exponents.' The reality of a succession of Messianic predictions is admitted by even very advanced theologians; and the more usual opinion, it is well known, regards these predictions from the time of Moses to the time of Malachi as admitting of no question, from the clearness, fulness, and particularity with which they announce a deliverer, and describe his functions. 'That salvation should come through the family of Abraham, Isaac, Jacob, Judah, David; that at the time of the final absorption of Jewish power, Shiloh (the tranquillizer) should gather the nations under his rule; that there should be a great prophet typified by Moses, a king descended from David, a priest for ever typified by Melchizedek; that there should be born into the world a child, to be called Mighty God, Eternal Father, Prince of Peace; that there should be a righteous servant of God on whom the Lord should lay the iniquity of us all; that Messiah, the Prince, should be cut off, but not for himself; that an everlasting kingdom should be given by the Ancient of Days to one like the Son of Man. It seems impossible to harmonize so many apparent contradictions. Nevertheless, it is an undoubted fact, that at the time seemingly pointed out by one or more of these predictions, there was born into the world a child of the house of David, and therefore of the family of Abraham, Isaac, Jacob, and Judah, who claimed to be the object of these and other predictions; who is acknowledged as Prophet, Priest, and King, as Mighty God, and yet as God's righteous servant, who bears the iniquity of all; who was cut off, and whose death is acknowledged not to have been for His own, but for others' good; who has instituted a spiritual kingdom on earth, which kingdom is of a nature to continue for ever, and in whose doings and sufferings on earth a number of specific predictions were fulfilled. Then we may say that we have here a series of prophecies which are so applicable to the person and earthly life of Jesus Christ, as to be thereby shown to have been designed to apply to Him; and if they were designed to appy to Him, prophetical prediction is proved.'—Smith's *Dictionary of Bible*, art. Prophecy.

Such is the common view of prophecy. It has, indeed, been maintained by certain writers that *literal prediction* has no place in P.; that Isaiah did not foretell the Babylonian Captivity, or the fall of Tyre, nor Jeremiah the Seventy Years' Captivity, nor Nahum the ruin of Nineveh; and that the Messianic prophecies were merely 'ardent hopes and poetical descriptions' of a glorious future, into which the prophetic mind naturally projected itself. Such delineations were 'in essence nothing but *forebodings*—efforts of the spiritual eye to bring up before itself the distinct form of the future: to make such presentiments into *historical declarations*, is to mistake their character.'—Davidson's *Introduction*, IV. But this is not the ordinary theory of P. among either Jews or Christians. Both alike recognize the reality of the predictive element, however differently they may interpret and apply the prediction. They contend not only for a special spiritual elevation in the prophet—an intenser degree of the same divine intuition which God gives to all who worship Him in love and reverence—but for a gift of light vouchsafed to him different from any ordinary endowment. P. is not merely the effluence of the Divine Spirit enriching and exalting all the natural faculties, but it is also, through this enrichment and exaltation, the direct communication of God Himself, to the prophet unveiling the future for the guidance of His church, and the glory of His name.

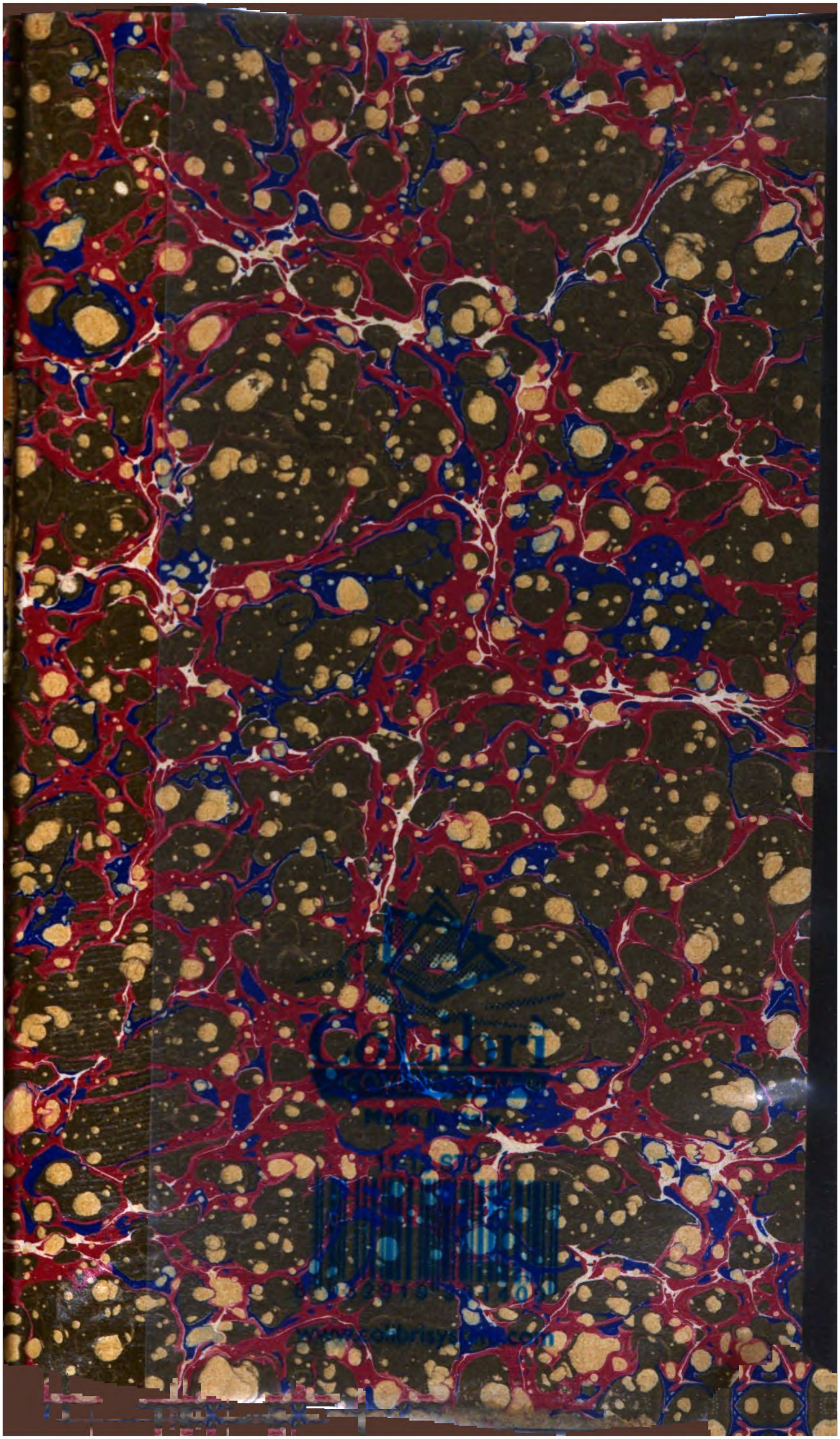
For study of the subject, see John Smith, *Select Discourses on Prophecy;* Lowth, *De Sacra Poesi Hebræorum;* Davison, *Discourses on Prophecy;* Butler, *Analogy of Religion;* Horne, *Introduction to Holy Scripture;* Eichhorn, *Die Hebräischen Propheten;* Ewald, *Die Propheten des Alten Bundes;* Hengstenberg, *Christology of the Old Testament;* Fairbairn, *Prophecy;* Davidson, *Introduction to the Old Testament;* Stanley, *Lectures on the Jewish Church.*

PROPHYLACTIC, a. *prŏf′ĭ-lăk′tĭk* [Gr. *prophulak′tĭkos*, qualified for guarding against, preservative—from *pro*, before; *phulas′sō*, I preserve; *phulax*, a guard]: in *med.*, defending from disease; preventive: N. a medicine which preserves against disease. PROPH′YLAC′TICAL, a. *-tĭ-kăl*, same as the adj. prophylactic. PROPH′YLAX′IS, n. *-lăks′ĭs*, preservative or preventive treatment.

PROPINQUITY, n. *prō-pĭng′kwĭ-tĭ* [L. *propin′quĭtas*, relationship; *propinquus*, neighboring—from *prŏp′ĕ*, near: It. *propinquita*]: nearness of blood; nearness of time or place.

PROPIONIC, a. *prō-pĭ-ŏn′ĭk* [Gr. *prōtos*, first; *piōn*, fat]: applied to the first acid of a fatty series which exhibits the properties of a fat.

PROPITIATE, v. *prō-pĭsh′ĭ-āt* [L. *propitĭātus*, propitiated; *propitiārĕ*, to render favorable—from *propit′ĭŭs*, favorable, well-disposed: It. *propiziare :* OF. *propitier*]: to render favorable; to conciliate; to make atonement. **PROPI′TIATING**, imp. **PROPI′TIATED**, pp. **PROPI′TIATOR**, n. *-tėr*, one who propitiates. **PROPI′TIABLE**, a. *-ă-bl*, that may be rendered favorable. **PROPI′TIA′TION**, n. *-ā′shŭn*, the act of appeasing wrath and conciliating favor; the atonement. **PROPI′TIATORY**, n. *-tėr-ĭ*, having the power to conciliate or render favorable: N. among the *Jews*, the mercy-seat. **PROPI′TIATORILY**, ad. *-ĭ-lĭ*. **PROPI′TIOUS**, a. *-pĭsh′ŭs*, favorable; kind; disposed to be merciful. **PROPI′TIOUSLY**, ad. *-lĭ*. **PROPI′TIOUSNESS**, n. *-nĕs*, disposition to treat another kindly, or to forgive; favorableness.



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